CDX-GT170/GT170S/ GT270/GT270S

SERVICE MANUAL

Ver. 1.0 2007. 08

E Model

CDX-GT170/GT170S/GT270/GT270S

Chinese Model

CDX-GT270

(Photo: CDX-GT170)

• The tuner and CD sections have no adjustments.

Model Name Using Similar Mechanism	CDX-GT370/GT370S
CD Drive Mechanism Type	MG-101TC-188//C
Optical Pick-up Name	DAX-25A

SPECIFICATIONS

CD player section

Signal-to-noise ratio	120 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
FM tuning interval	50 kHz/200 kHz switchable
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	67 dB (stereo), 69 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW

Tuning range	531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
MW tuning interval	9 kHz/10 kHz switchable
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

SW

Tuning range	SW1: 2,940 – 7,735 kHz SW2: 9,500 – 18,135 kHz (except for 10,140 – 11,575 kHz)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

– Continued on next page –

FM/MW/SW COMPACT DISC PLAYER

9-887-818-01
2007H04-1
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Sony Corporation
eVehicle Division
Published by Sony Techno Create Corporation

SONY

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	52 W × 4 (at 4 ohms)

General

Output	Audio outputs terminal (sub/rear switchable) Power antenna (aerial) relay control terminal Power amplifier control terminal
Inputs	Antenna (aerial) input terminal AUX input jack (stereo mini jack)
Tone controls	Low: ±10 dB at 60 Hz (XPLOD) Mid: ±10 dB at 1 kHz (XPLOD) High: ±10 dB at 10 kHz (XPLOD)
Loudness	+4 dB at 100 Hz +2 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 179 mm (7 1/8 × 2 × 7 1/8 in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 162 mm (7 1/4 × 2 1/8 × 6 1/2 in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb. 11 oz.)
Supplied accessories	Parts for installation and connections (1 set) Card remote commander: RM-X151 (CDX-GT270/GT270S only)

MPEG Layer-3 audio coding technology and patents licensed from Fraunhofer IIS and Thomson.

Design and specifications are subject to change without notice.

SERVICE NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TEST DISCS

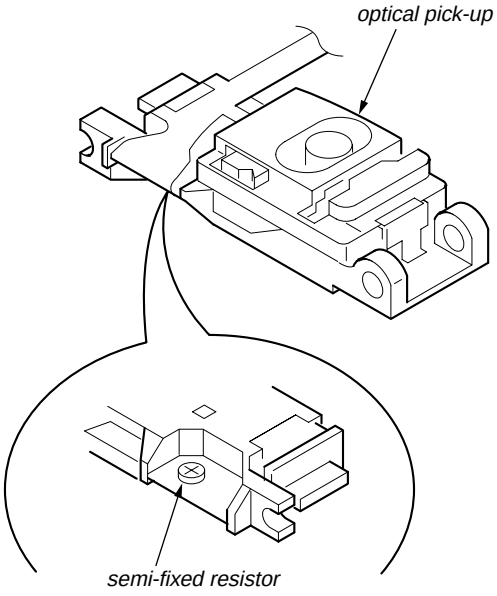
Please use the following test discs for the check on the CD section.

YDES-18 (Part No. 3-702-101-01)
PATD-012 (Part No. 4-225-203-01)

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

If the optical pick-up block is defective, please replace the whole optical pick-up block.
Never turn the semi-fixed resistor located at the side of optical pick-up block.



This compact disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the exterior.

• E model

CLASS 1
LASER PRODUCT

This label is located on the bottom of the chassis.

• Chinese model

1类激光产品

此标签位于机壳的底部。

• **CD Playback**
You can play CD-DA (also containing CD TEXT) and CD-R/CD-RW (MP3/WMA files*).

Type of discs	Label on the disc
CD-DA	COMPACT disc DIGITAL AUDIO Recordable COMPACT disc DIGITAL AUDIO ReWritable
MP3* WMA*	COMPACT disc DIGITAL AUDIO Recordable COMPACT disc DIGITAL AUDIO ReWritable COMPACT disc Recordable COMPACT disc ReWritable

* CDX-GT270/GT270S only

● UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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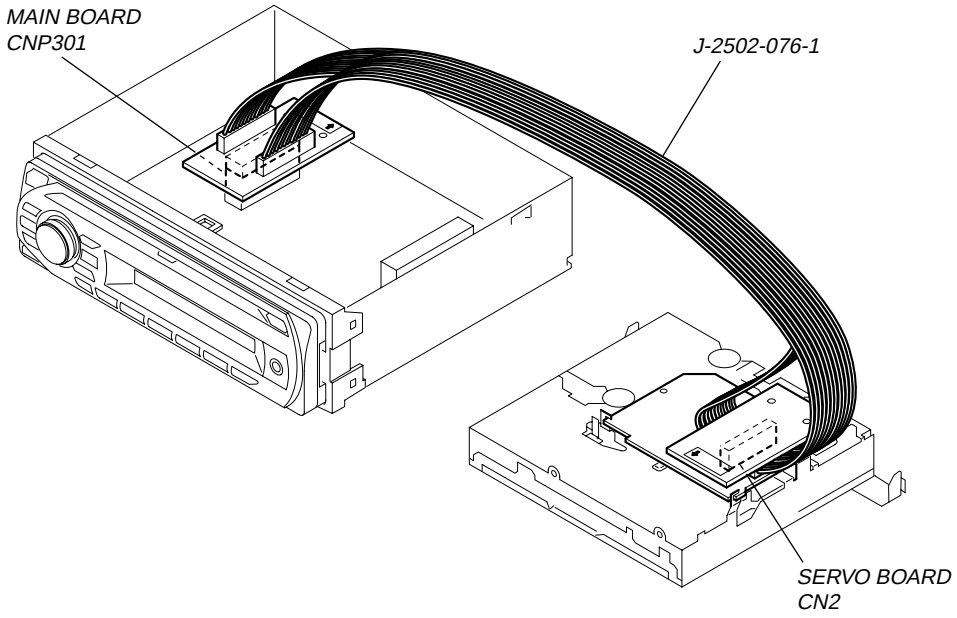
SECTION 1
SERVICE NOTE

EXTENSION CABLE AND SERVICE POSITION

When repairing or servicing this set, connect the jig (extension cable) as shown below.

- Connect the MAIN board (CNP301) and the SERVO board (CN2) with the extension cable (Part No. J-2502-076-1).



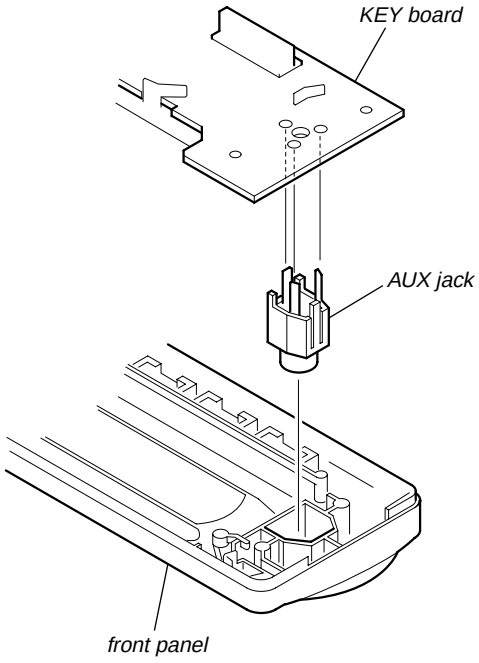
NOTE FOR REPLACEMENT OF THE SERVO BOARD

When repairing, the complete SERVO board (A-1201-631-A) should be replaced since any parts in the SERVO board cannot be repaired.

NOTE FOR REPLACEMENT OF THE AUX JACK (J901)

To replace the AUX jack requires alignment.

1. Insert the AUX jack into the KEY board.
2. Place the KEY board on the front panel.
3. Solder the three terminals of the jack.



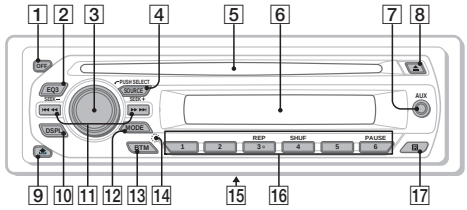
SECTION 2
GENERAL

This section is extracted from instruction manual.

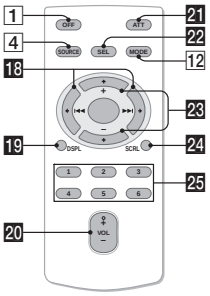
• LOCATION OF CONTROL

Location of controls and basic operations

Main unit



Card remote commander RM-X151 (CDX-GT370S/GT370/ GT270S/GT270 only)



This section contains instructions on the location of controls and basic operations.
For details, see the respective pages.
For optional device (CD/MD changer, etc.,) operation, see "Using optional equipment" on page 10. The corresponding buttons on the card remote commander control the same functions as those on the unit.

1 **OFF button**
To power off; stop the source.

2 **EQ3 (equalizer) button** page 9
To select an equalizer type (XPLOD, VOCAL, EDGE, CRUISE, SPACE, GRAVITY, CUSTOM or OFF).

3 **Volume control dial/select button** page 9
To adjust volume (rotate); select setup items (press and rotate).

4 **SOURCE button**
To power on; change the source* (Radio/CD/AUX).

5 **Disc slot**
Insert the disc (label side up), playback starts.

6 **Display window**

7 **AUX input jack** page 10
To connect a portable audio device.

8 **⏏ (eject) button**
To eject the disc.

9 **(front panel release) button** page 5

10 **DSPL (display)/SCRL (scroll) button (CDX-GT370S/GT370/GT270S/GT270)** page 8
To change display items (press); scroll the display item (press and hold).
DSPL (display) button (CDX-GT170S/ GT170) page 8
To change display items.

11 **SEEK –/+ buttons**
CD:
To skip tracks (press); skip tracks continuously (press, then press again within about 1 second and hold); reverse/fast-forward a track (press and hold).
Radio:
To tune in stations automatically (press); find a station manually (press and hold).

12 **MODE button** page 8
To select the radio band (FM/MW/SW)*.

13 **BTM button** page 8
To start the BTM function (press and hold).

14 **RESET button** (located behind the front panel) **(CDX-GT370S/GT370 only)** page 5

15 **Frequency select switch** (located on the bottom of the unit)
See "Frequency select switch" in the supplied installation/connections manual.

16 **Number buttons**
CD:
①/②: **ALBUM –/+** (during MP3/WMA playback) **(CDX-GT370S/GT370/ GT270S/GT270)**
To skip albums (press); skip albums continuously (press and hold).
③: **REP** page 8
④: **SHUF** page 8
⑥: **PAUSE**
To pause playback of a CD on this unit. To cancel, press again.
Radio:
To receive stored stations (press); store stations (press and hold).

17 **Receptor for the card remote commander (CDX-GT370S/GT370/ GT270S/GT270 only)**

The following buttons on the card remote commander have also different buttons/functions from the unit. Remove the insulation film before use (page 5) (CDX-GT370S/GT370/GT270S/ GT270 only).

18 **⬅ (I◀◀)/➡ (▶▶I) buttons**
To control CD/radio, the same as SEEK –/+ on the unit.
Setup, sound setting, etc., can be operated by ⬅➡.

19 **DSPL (display) button**
To change display items.

20 **VOL (volume) +/– button**
To adjust volume.

21 **ATT (attenuate) button**
To attenuate the sound. To cancel, press again.

22 **SEL (select) button**
The same as the select button on the unit.

23 **⬆ (+)/⬇ (–) buttons**
To control CD, the same as ①/② (ALBUM –/+) on the unit.
Setup, sound setting, etc., can be operated by ⬆⬇.

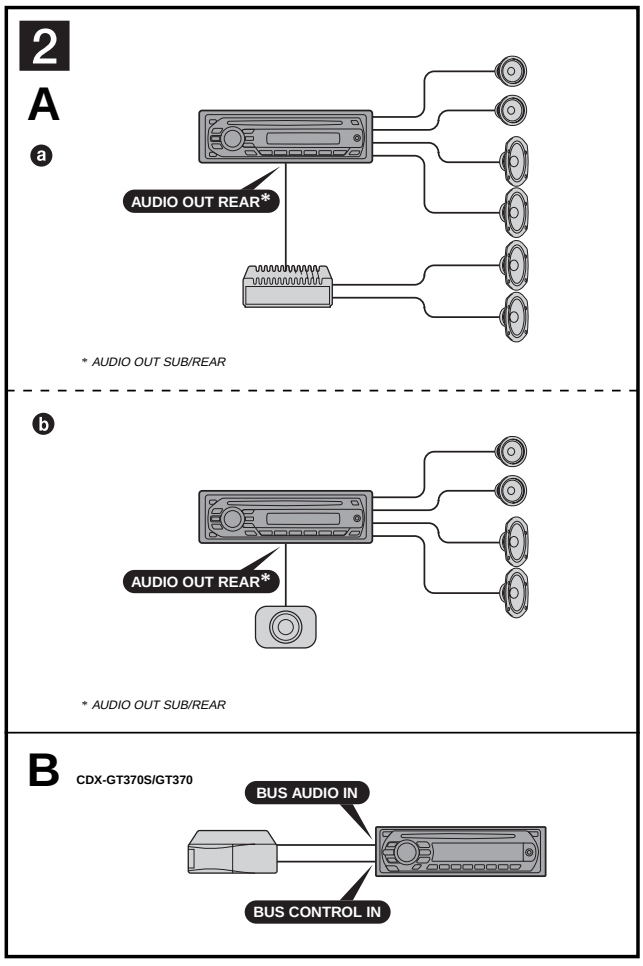
24 **SCRL (scroll) button**
To scroll the display item.

25 **Number buttons**
To receive stored stations (press); store stations (press and hold).

** In the case of a CD/MD changer being connected; when SOURCE is pressed, the connected device ("MD") will appear in the display, depending on which device is connected. Furthermore, if MODE is pressed, you can switch the changer (CDX-GT370S/GT370 only).*

Note
If the unit is turned off and the display disappears, it cannot be operated with the card remote commander unless SOURCE on the unit is pressed, or a disc is inserted to activate the unit first.

• CONNECTIONS



Connection example 2

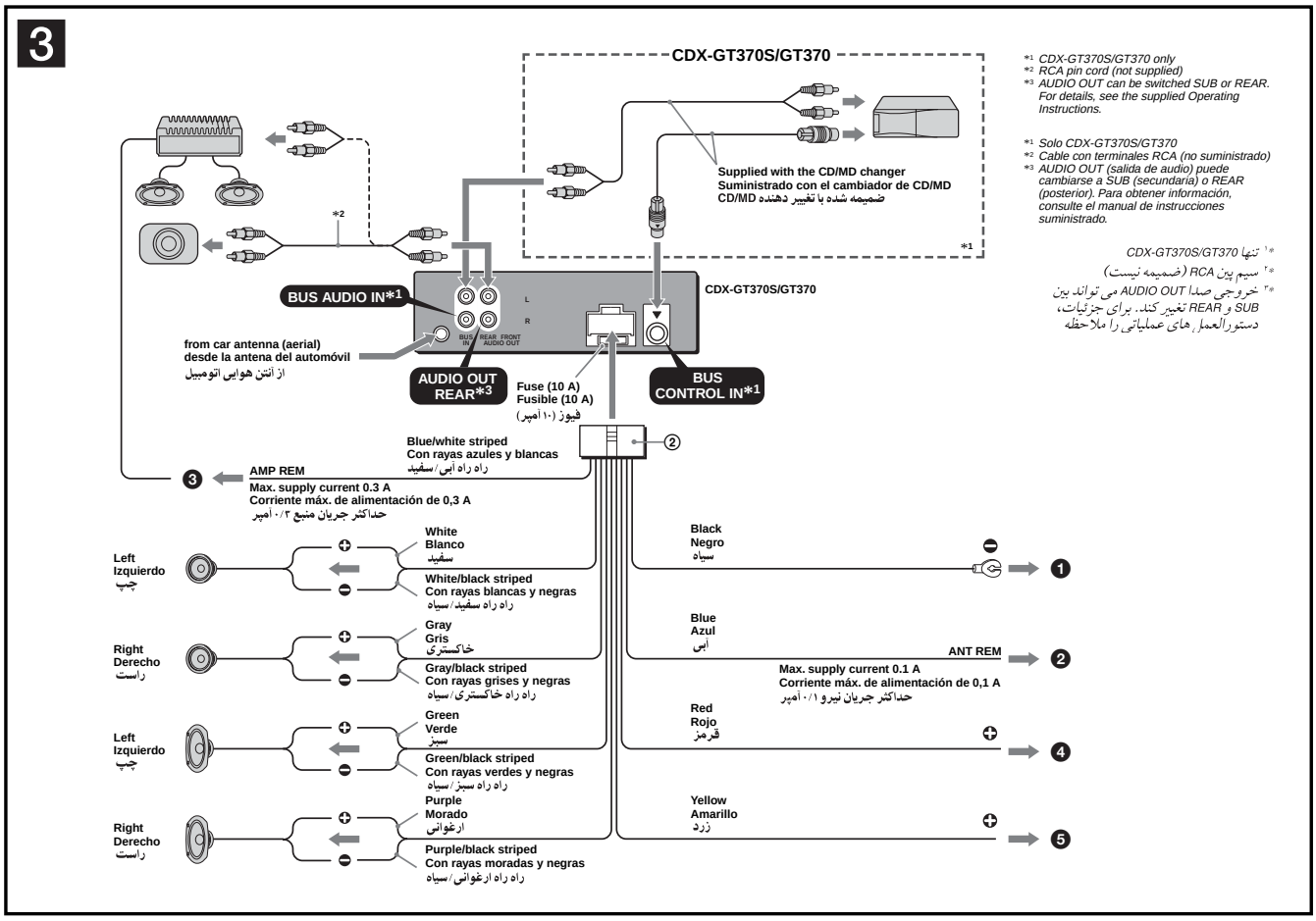
***Notes* (2-A)**
- *Be sure to connect the ground (earth) lead before connecting the amplifier.*
- *The alarm will only sound if the built-in amplifier is used.*

Ejemplo de conexiones 2

***Notas* (2-A)**
- *Asegúrese de conectar primero el cable de conexión a masa antes de realizar la conexión del amplificador.*
- *La alarma sonará únicamente si se utiliza el amplificador incorporado.*

نمونه اتصال 2

***نکات* (2-A)**
- *اطمینان حاصل کنید که سیم زمین (ارث) را پیش از وصل کردن تقویت کننده وصل کنید.*
- *تنها در صورتی که تقویت کننده داخلی مورد استفاده قرار گیرد زنگ به صدا در خواهد آمد.*



Connection diagram 3

❶ **To a metal surface of the car**
First connect the black ground (earth) lead, then connect the yellow, and red power supply leads.

❷ **To the power antenna (aerial) control lead or power supply lead of antenna (aerial) booster amplifier**
Notes
- *It is not necessary to connect this lead if there is no power antenna (aerial) or antenna (aerial) booster, or with a manually-operated telescopic antenna (aerial).*
- *When your car has a built-in FM/MW/SWantenna (aerial) in the rear/side glass, see "Notes on the control and power supply leads."*

❸ **To AMP REMOTE IN of an optional power amplifier**
This connection is only for amplifiers. Connecting any other system may damage the unit.

❹ **To the +12 V power terminal which is energized in the accessory position of the ignition key switch**
Notes
- *If there is no accessory position, connect to the +12 V power (battery) terminal which is energized at all times. Be sure to connect the black ground (earth) lead to a metal surface of the car first.*
- *When your car has a built-in FM/MW/SW antenna (aerial) in the rear/side glass, see "Notes on the control and power supply leads."*

❺ **To the +12 V power terminal which is energized at all times**
Be sure to connect the black ground (earth) lead to a metal surface of the car first.

Notes on the control and power supply leads
- *The power antenna (aerial) control lead (blue) supplies +12 V DC when you turn on the tuner.*
- *When your car has built-in FM/MW/SW antenna (aerial) in the rear/side glass, connect the power antenna (aerial) control lead (blue) or the accessory power supply lead (red) to the power terminal of the existing antenna (aerial) booster. For details, consult your dealer.*
- *A power antenna (aerial) without a relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.*
- *Do not connect the ground (earth) lead of this unit to the negative (–) terminal of the speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.*
- *To avoid a malfunction, do not use the built-in speaker leads installed in your car if the unit shares a common negative (–) lead for the right and left speakers.*
- *Do not connect the unit's speaker leads to each other.*

Note on connection
If speaker and amplifier are not connected correctly, "FAILURE" appears in the display. In this case, make sure the speaker and amplifier are connected correctly.

Diagrama de conexión 3

❶ **A una superficie metálica del automóvil**
Conecte primero el cable de conexión a masa negro, y después los cables amarillo y rojo de fuente de alimentación.

❷ **Al cable de control de la antena motorizada o al cable de fuente de alimentación del amplificador de señal de la antena**
Notas
- *Si no se dispone de antena motorizada ni de amplificador de antena, o se utiliza una antena telescópica accionada manualmente, no será necesario conectar este cable.*
- *Si el automóvil incorpora una antena de FM/MW/SW en el cristal trasero o lateral, consulte "Notas sobre los cables de control y de fuente de alimentación".*

❸ **A AMP REMOTE IN de un amplificador de potencia opcional**
Esta conexión es sólo para amplificadores. La conexión de cualquier otro sistema puede dañar la unidad.

❹ **Al terminal de alimentación de +12 V que recibe energía en la posición de accesorio del interruptor de encendido**
Notas
- *Si no hay posición de accesorio, conéctelo al terminal de alimentación (batería) de +12 V que recibe energía sin interrupción.*
  Asegúrese de conectar primero el cable de conexión a masa negro a una superficie metálica del automóvil.
- *Si el automóvil incorpora una antena de FM/MW/SW en el cristal trasero o lateral, consulte "Notas sobre los cables de control y de fuente de alimentación".*

❺ **Al terminal de alimentación de +12 V que recibe energía sin interrupción**
Asegúrese de conectar primero el cable de conexión a masa negro a una superficie metálica del automóvil.

Notas sobre los cables de control y de fuente de alimentación
- *El cable de control de la antena motorizada (azul) suministrará cc de + 12 V cuando conecte la alimentación del sintonizador.*
- *Si el automóvil dispone de una antena de FM/MW/SW incorporada en el cristal trasero o lateral, conecte el cable de control de antena motorizada (azul) o el cable de fuente de alimentación auxiliar (rojo) al terminal de alimentación del amplificador de antena existente. Para obtener más información, consulte a su distribuidor.*
- *Con esta unidad no es posible utilizar una antena motorizada sin caja de relé.*

Conexión para protección de la memoria
Si conecta el cable de fuente de alimentación amarillo, el circuito de la memoria recibirá siempre alimentación, aunque apague el interruptor de encendido.

Notas sobre la conexión de los altavoces
- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 Ω con la capacidad de potencia adecuada para evitar que se dañen.*
- *No conecte los terminales de altavoz al chasis del automóvil, ni conecte los terminales del altavoz derecho con los del izquierdo.*
- *No conecte el cable de conexión a masa de esta unidad al terminal negativo (–) del altavoz.*
- *No intente conectar los altavoces en paralelo.*
- *Conecte solamente altavoces pasivos. Si conecta altavoces activos (con amplificadores incorporados) a los terminales de altavoz, puede dañar la unidad.*
- *Para evitar fallas de funcionamiento, no utilice los cables de altavoz incorporados instalados en el automóvil si la unidad comparte un cable negativo común (–) para los altavoces derecho e izquierdo.*
- *No conecte los cables de altavoz de la unidad entre sí.*

Nota sobre la conexión
Si el altavoz no está conectado correctamente, aparecerá "FAILURE" en la pantalla. Si es así, compruebe la conexión del altavoz.

نمودار اتصال 3

❶ **به یک سطح فلزی اتومبیل**
ابتدا سیم سیاه زمین را وصل کنید، سپس سیم های ورودی زرد و قرمز را وصل کنید.

❷ **به سیم کنترل آنتن هوایی برقی یا سیم منبع برق تقویت کننده هوایی**
نکات
- *در صورتی که آنتن هوایی برقی یا تقویت کننده هوایی وجود ندارد، یا با یک آنتن هوایی تلسکوپی دستی وصل کردن این سیم ضروری نیست.*
- *هنگامی که اتومبیل شما دارای یک آنتن هوایی FM/MW/SW در شیشه عقبی/ کناری می باشد، " نکات در مورد سیم های کنترل و منبع برق" را ملاحظه نمایید.*

❸ **به AMP REMOTE IN یک تقویت کننده نیرو اختیاری**
این اتصال تنها برای تقویت کننده ها است. وصل کردن هر سیستم دیگری ممکن است دستگاه را خراب کند.

❹ **به ترمینال برق +۱۲ ولت که در موقعیت جانبی کلید احتراق نیرو می گیرد**
نکات
- *اگر هیچ موقعیت جانبی وجود ندارد، به ترمینال برق (باطری) +۱۲ ولت که همواره نیرو می گیرد وصل کنید. اطمینان حاصل کنید که ابتدا سیم سیاه زمین را به سطح فلزی اتومبیل وصل کنید.*
- *هنگامی که اتومبیل شما دارای یک آنتن هوایی FM/MW/SW در شیشه عقبی/ کناری می باشد، " نکات در مورد سیم های کنترل و منبع برق" را ملاحظه نمایید.*

❺ **به ترمینال برق +۱۲ ولت که همواره نیرو می گیرد**
اطمینان حاصل کنید که ابتدا سیم سیاه زمین را به سطح فلزی اتومبیل وصل کنید.

نکات در مورد سیم های کنترل و منبع برق
- *هنگامی که شما موج یاب را روشن می کنید سیم کنترل آنتن هوایی برقی (آبی) برق مستقیم +۱۲ ولت را تامین می کند.*
- *هنگامی که اتومبیل شما دارای یک آنتن هوایی FM/MW/SW در شیشه عقبی/ کناری می باشد، سیم کنترل آنتن هوایی برقی (آبی) یا سیم منبع برق جانبی (قرمز) را به ترمینال برق تقویت کننده آنتن هوایی موجود وصل کنید. برای جزئیات، با فروشنده خود مشورت نمایید.*
- *یک آنتن هوایی بدون یک ایستگاه تقویت نمی تواند با این دستگاه مورد استفاده قرار گیرد.*

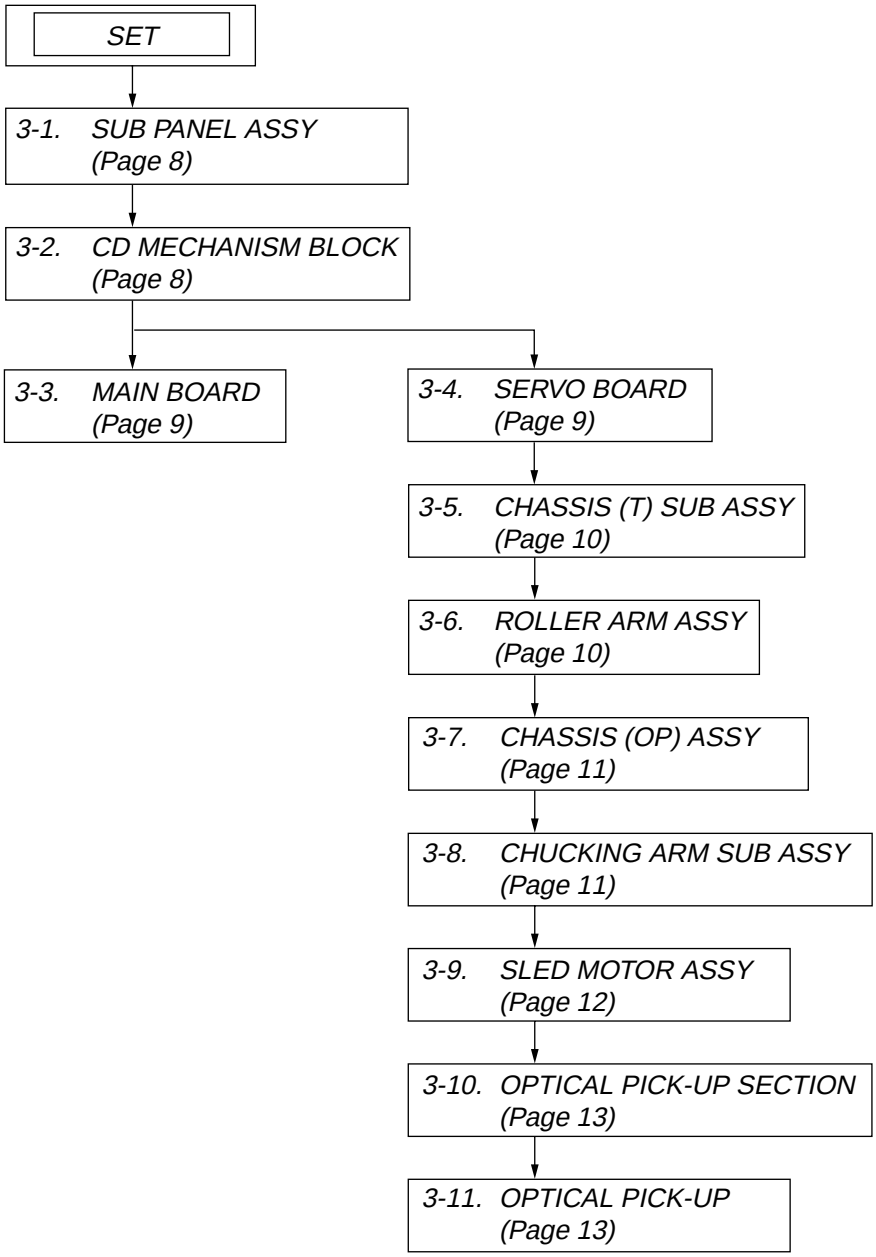
اتصال حفظ حافظه
هنگامی که سیم منبع برق زرد وصل می شود، برق همیشه به مدار حافظه حتی هنگامی که سوئیچ احتراق خاموش است تامین خواهد شد.

نکات در مورد اتصال بلندگو
- *پیش از وصل کردن بلندگوها، دستگاه را خاموش کنید.*
- *از بلندگوها با امپدانس ۴ تا ۸ اهم، و با ظرفیت بالای برق استفاده کنید تا از صدمه به آن جلوگیری کنید.*
- *ترمینال های بلندگو را به شاسی اتومبیل وصل نکنید، یا ترمینال های بلندگوهای راست را به ترمینال های بلندگوهای چپ وصل نکنید.*
- *سیم زمین این دستگاه را به ترمینال منفی (–) بلندگو وصل نکنید.*
- *سعی نکنید بلندگوها را بطور موازی وصل کنید.*
- *تنها بلندگوهای غیر فعال را وصل کنید. وصل کردن بلندگوهای فعال (با تقویت کننده های داخلی) به ترمینال های بلندگو ممکن است به دستگاه صدمه وارد کند.*
- *برای اجتناب از یک سوء عملکرد، از سیم های بلندگوی داخلی نصب شده در اتومبیل خود در صورتی که دستگاه دارای یک سیم منفی (–) مشترک برای بلندگوهای راست و چپ می باشد استفاده نکنید.*
- *سیم های بلندگوی دستگاه را به یکدیگر وصل نکنید.*

نکته در مورد اتصال
اگر بلندگو بطور صحیح وصل نشده باشد، "FAILURE" در صفحه نمایش ظاهر می شود. در چنین حالتی، اطمینان حاصل کنید که بلندگو بطور صحیح نصب شده است.

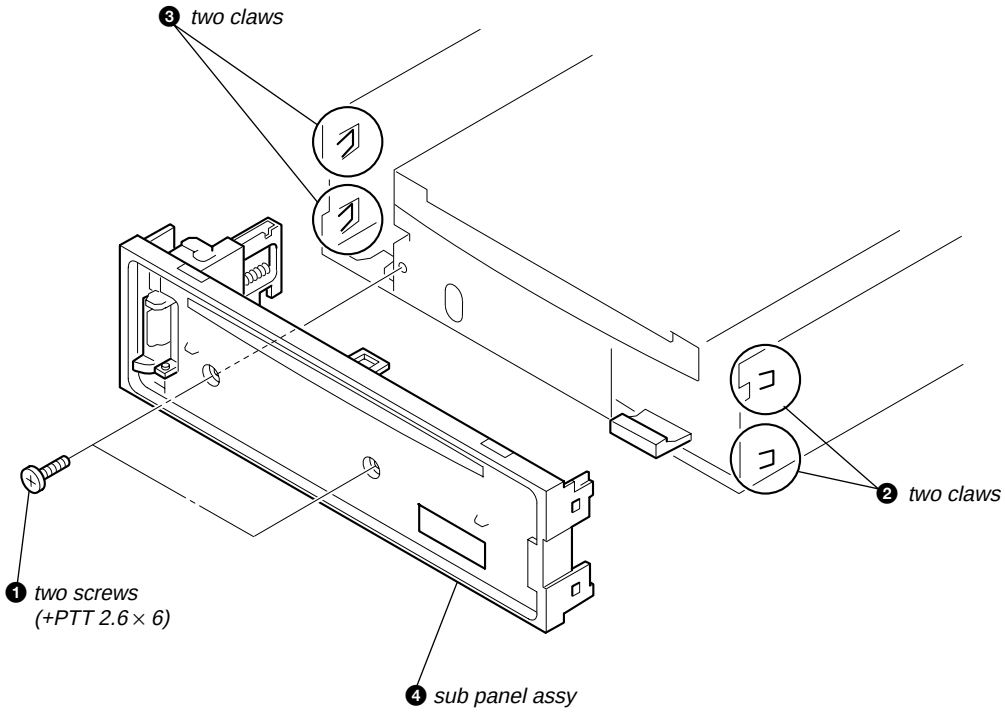
SECTION 3
DISASSEMBLY

Note: This set can be disassemble according to the following sequence.

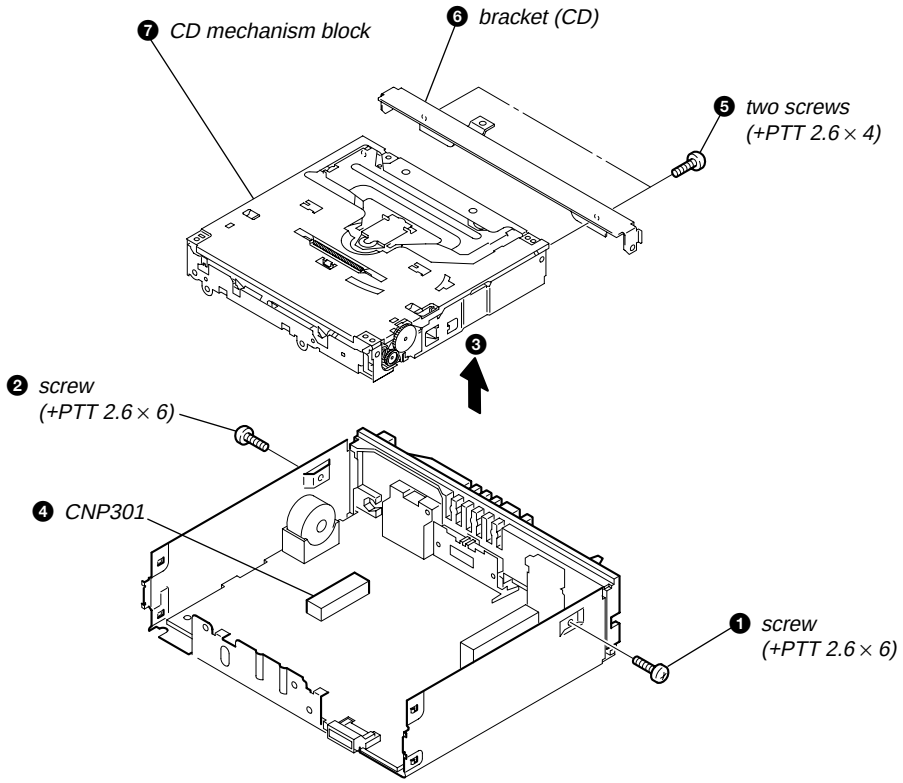

SET
3-1. SUB PANEL ASSY (Page 8)
3-2. CD MECHANISM BLOCK (Page 8)
3-3. MAIN BOARD (Page 9)
3-4. SERVO BOARD (Page 9)
3-5. CHASSIS (T) SUB ASSY (Page 10)
3-6. ROLLER ARM ASSY (Page 10)
3-7. CHASSIS (OP) ASSY (Page 11)
3-8. CHUCKING ARM SUB ASSY (Page 11)
3-9. SLED MOTOR ASSY (Page 12)
3-10. OPTICAL PICK-UP SECTION (Page 13)
3-11. OPTICAL PICK-UP (Page 13)

Note: Follow the disassembly procedure in the numerical order given.

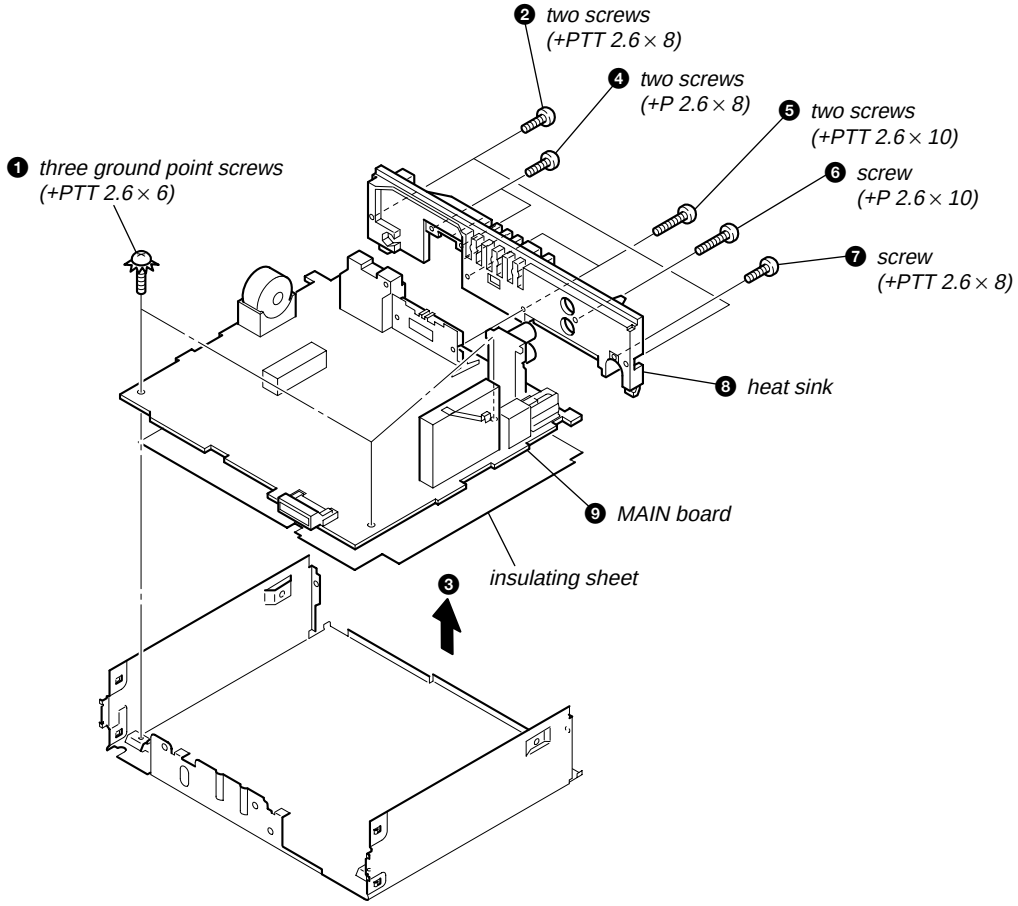
3-1. SUB PANEL ASSY



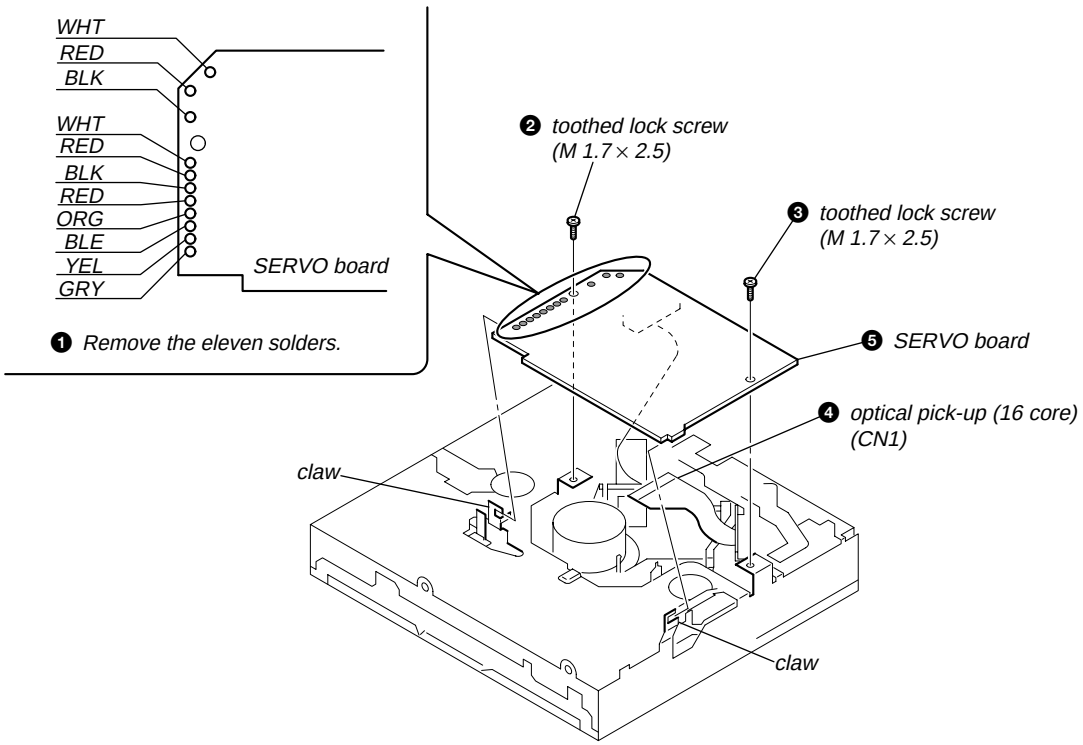
3-2. CD MECHANISM BLOCK



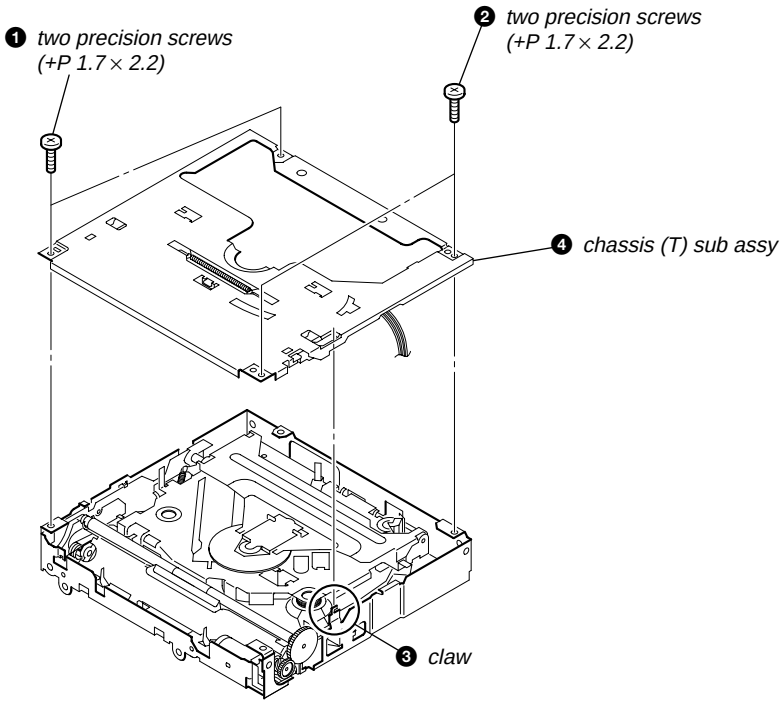
3-3. MAIN BOARD



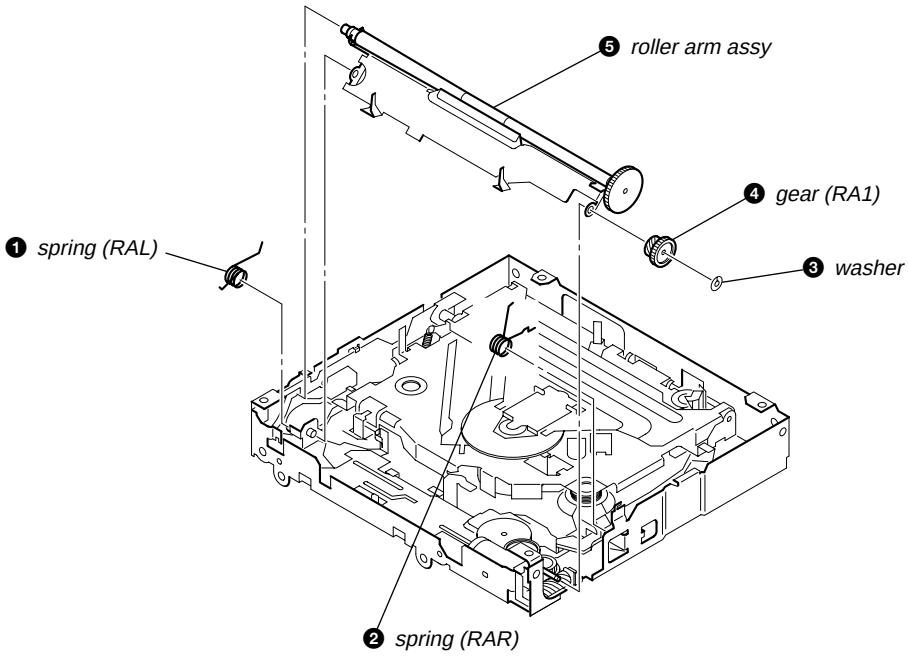
3-4. SERVO BOARD



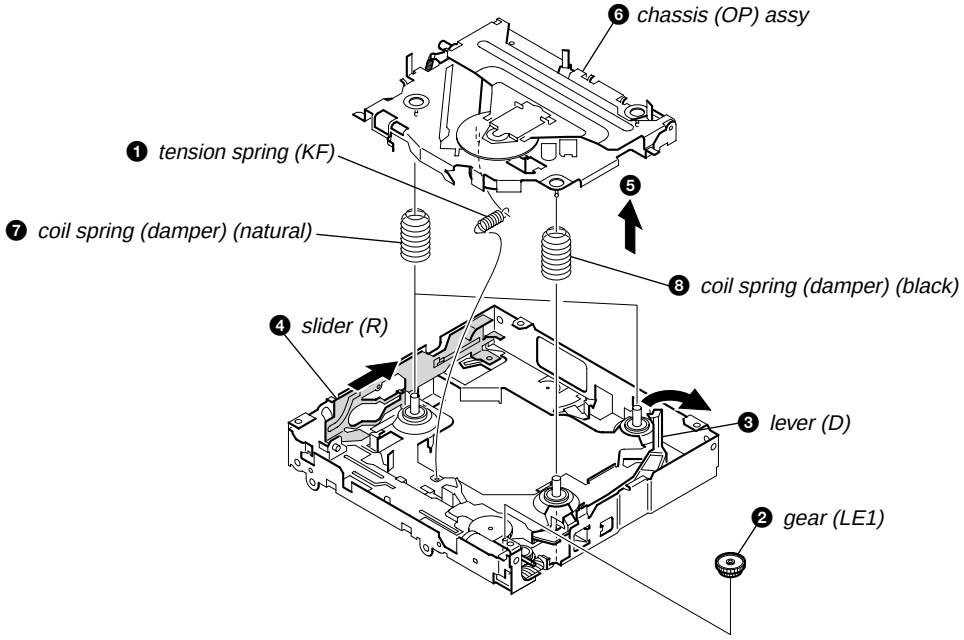
3-5. CHASSIS (T) SUB ASSY



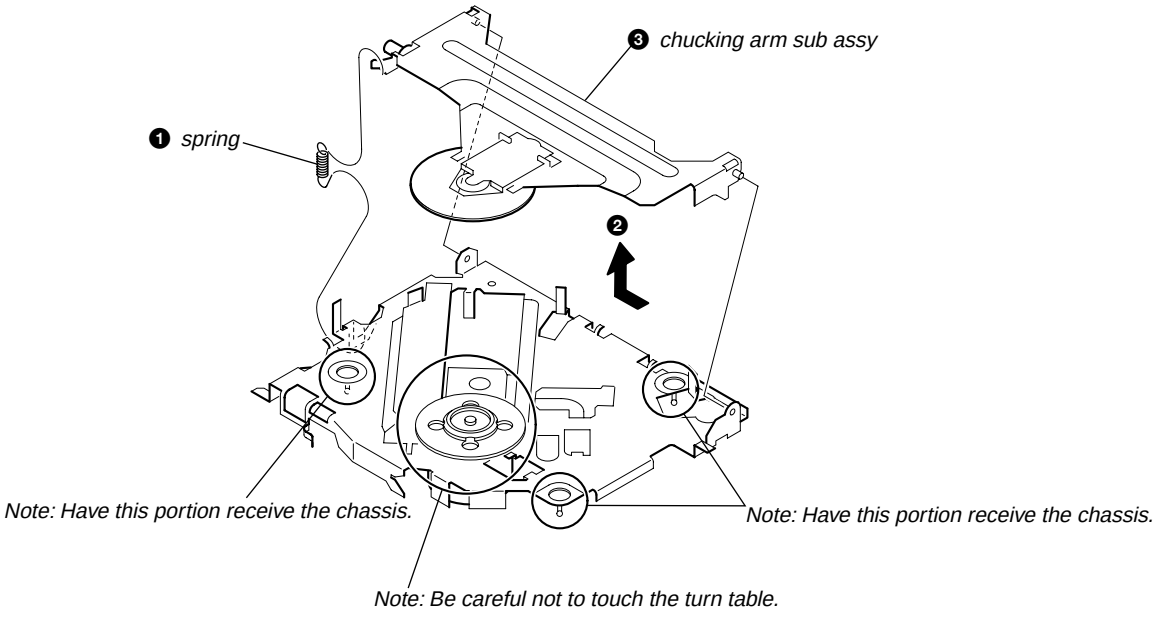
3-6. ROLLER ARM ASSY



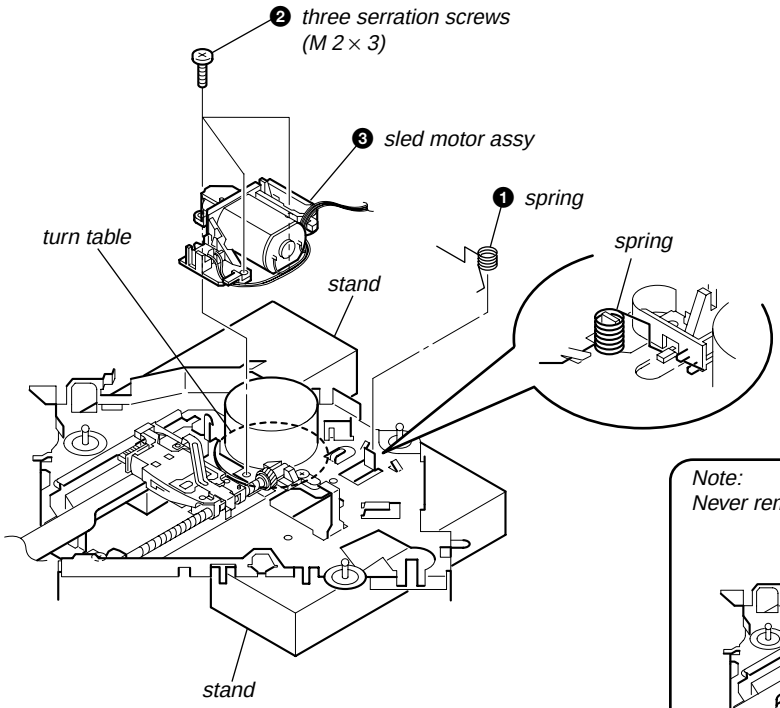
3-7. CHASSIS (OP) ASSY



3-8. CHUCKING ARM SUB ASSY

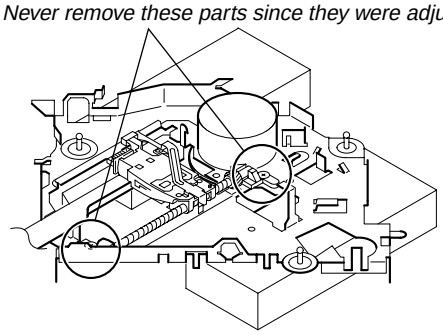

❸ chucking arm sub assy
❶ spring
❷
Note: Have this portion receive the chassis.
Note: Have this portion receive the chassis.
Note: Be careful not to touch the turn table.

3-9. SLED MOTOR ASSY

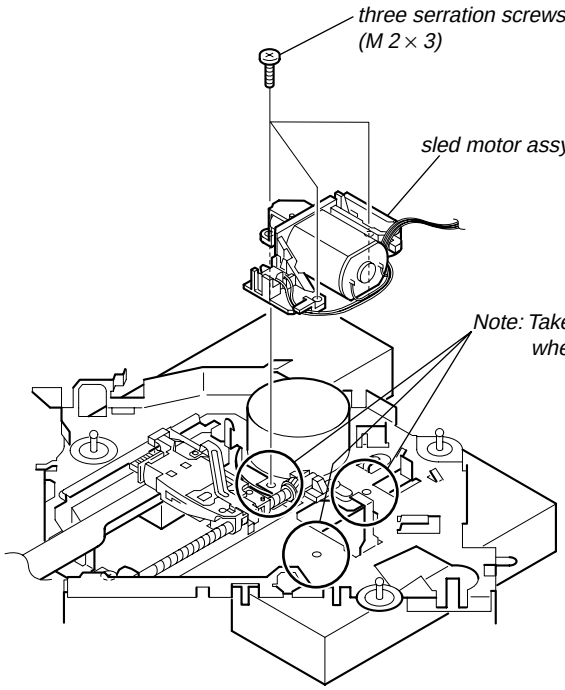


Note: Place the stand with care not to touch the turn table.

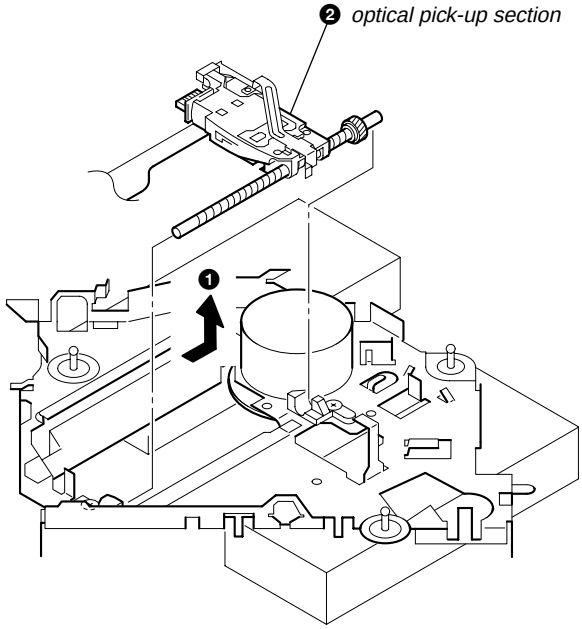
Note:
Never remove these parts since they were adjusted.

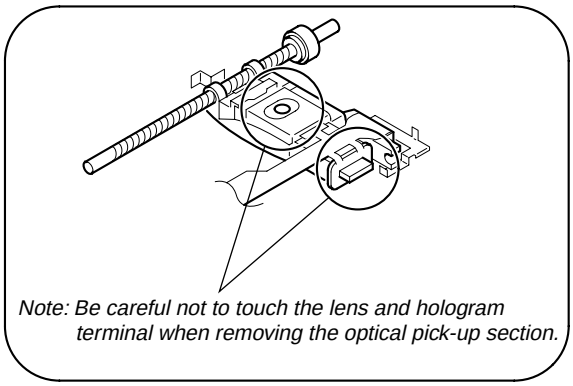


Note for Assembly


three serration screws
(M 2 × 3)
sled motor assy
Note: Take care to prevent the chassis from being bent
when tightening the three machine screws.

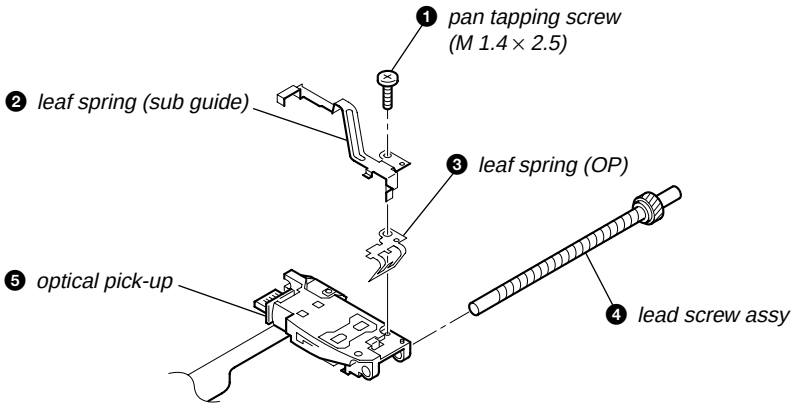
3-10. OPTICAL PICK-UP SECTION



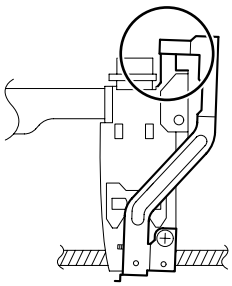


Note: Be careful not to touch the lens and hologram terminal when removing the optical pick-up section.

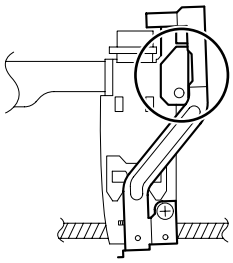
3-11. OPTICAL PICK-UP



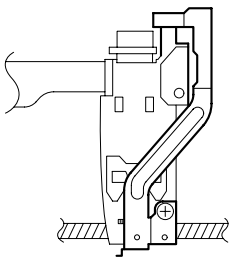
Notes for Assembly



Prevent the end of the leaf spring (sub guide) from being in contact with the OP slide base.



Prevent the end of the leaf spring (sub guide) from being in contact with the OP slide base.



There is space at the end of the leaf spring (sub guide) to avoid contact with the slide.

SECTION 4
DIAGNOSIS FUNCTION

Description of the Diagnostics function:

1. Setting the Diag display mode

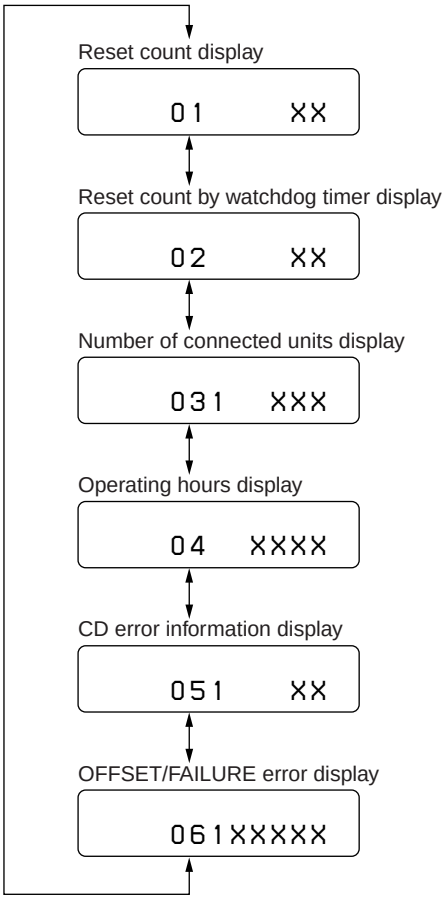
With the power off, press the [4] button, [5] button, and [4] button on the set body or the remote control (for more than 2 seconds) in turn.

2. Canceling the Diag display mode

During the Diag function mode, press the [OFF] button.

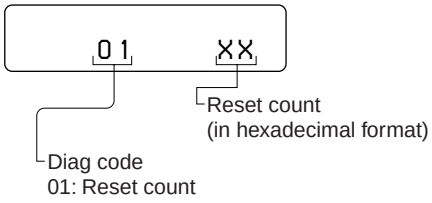
3. Initial display in the Diag display mode.

Just when the Diag mode is entered, "reset count" is displayed. The display mode is switched by each rotation of [▶▶ ▶▶I/SEEK +] or [I◀◀ ◀◀/SEEK –] keys.

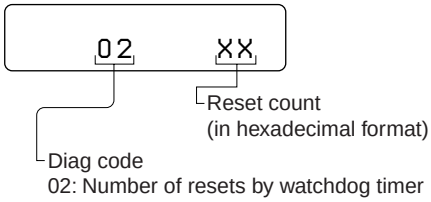


4. Contents of each display mode

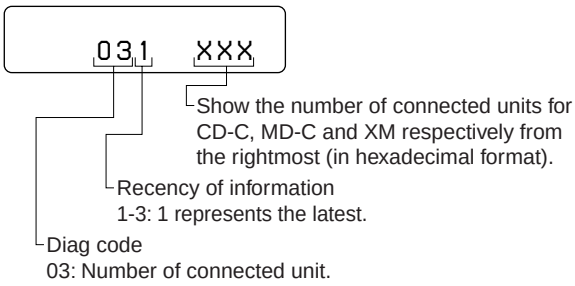
4-1. Reset count display mode



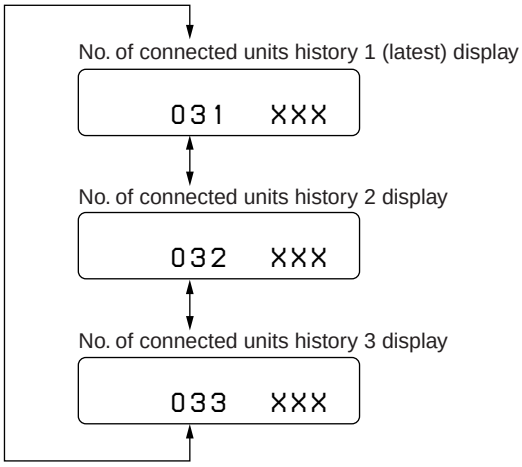
4-2. Reset count by watchdog timer display mode



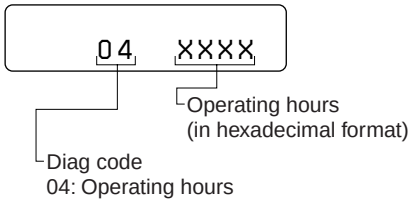
4-3. Number of connected units display mode


031 XXX
Show the number of connected units for CD-C, MD-C and XM respectively from the rightmost (in hexadecimal format).
Recency of information
1-3: 1 represents the latest.
Diag code
03: Number of connected unit.

The display mode is switched by each rotation of [2] or [1] keys during the number of connected units display mode.

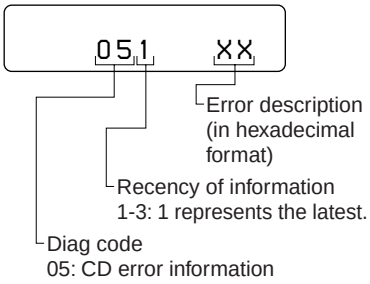

No. of connected units history 1 (latest) display
031 XXX
No. of connected units history 2 display
032 XXX
No. of connected units history 3 display
033 XXX

4-4. Operating hours display mode



4-5. CD error information display mode

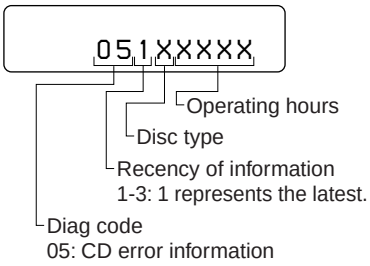
4-5-1. Error description



Error information

Indication	Description
1X	SERVO ERROR
3X	LOADING ERROR
4X	TRACK JUMP
5X	TEXT ERROR
FX	MECHA ERROR

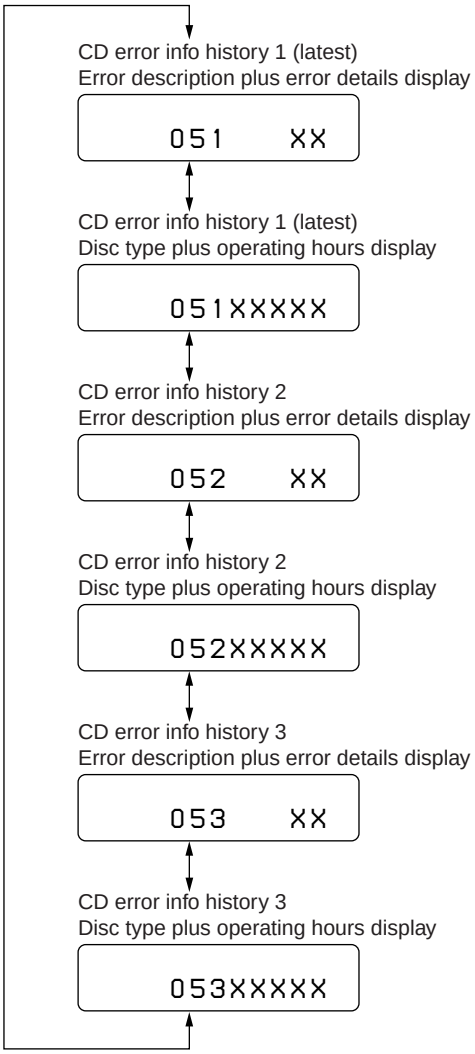
4-5-2. Disc type and operating hours



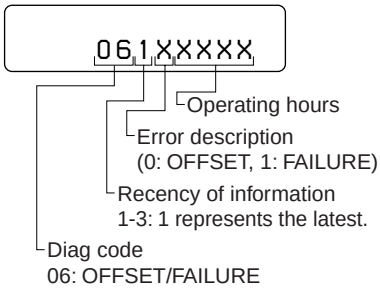
Disc type

Indication	Disc type
0	MP3
1	WMA
2	AAC
3	ATRAC
8	CD/DA
F	UNKNOWN

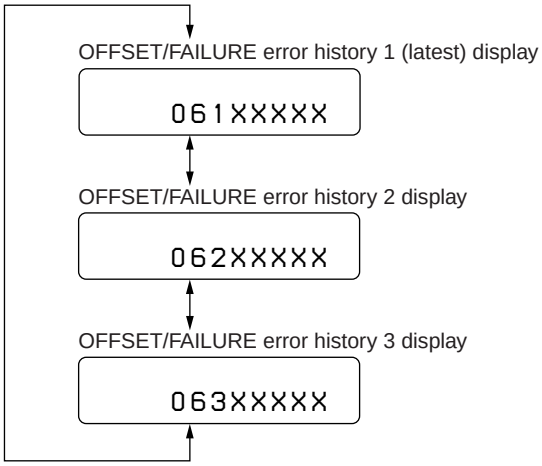
The display mode is switched by each rotation of [2] or [1] keys during the CD error information display mode.


CD error info history 1 (latest)
Error description plus error details display
051 XX
CD error info history 1 (latest)
Disc type plus operating hours display
051XXXXX
CD error info history 2
Error description plus error details display
052 XX
CD error info history 2
Disc type plus operating hours display
052XXXXX
CD error info history 3
Error description plus error details display
053 XX
CD error info history 3
Disc type plus operating hours display
053XXXXX

4-6. OFFSET/FAILURE error display mode



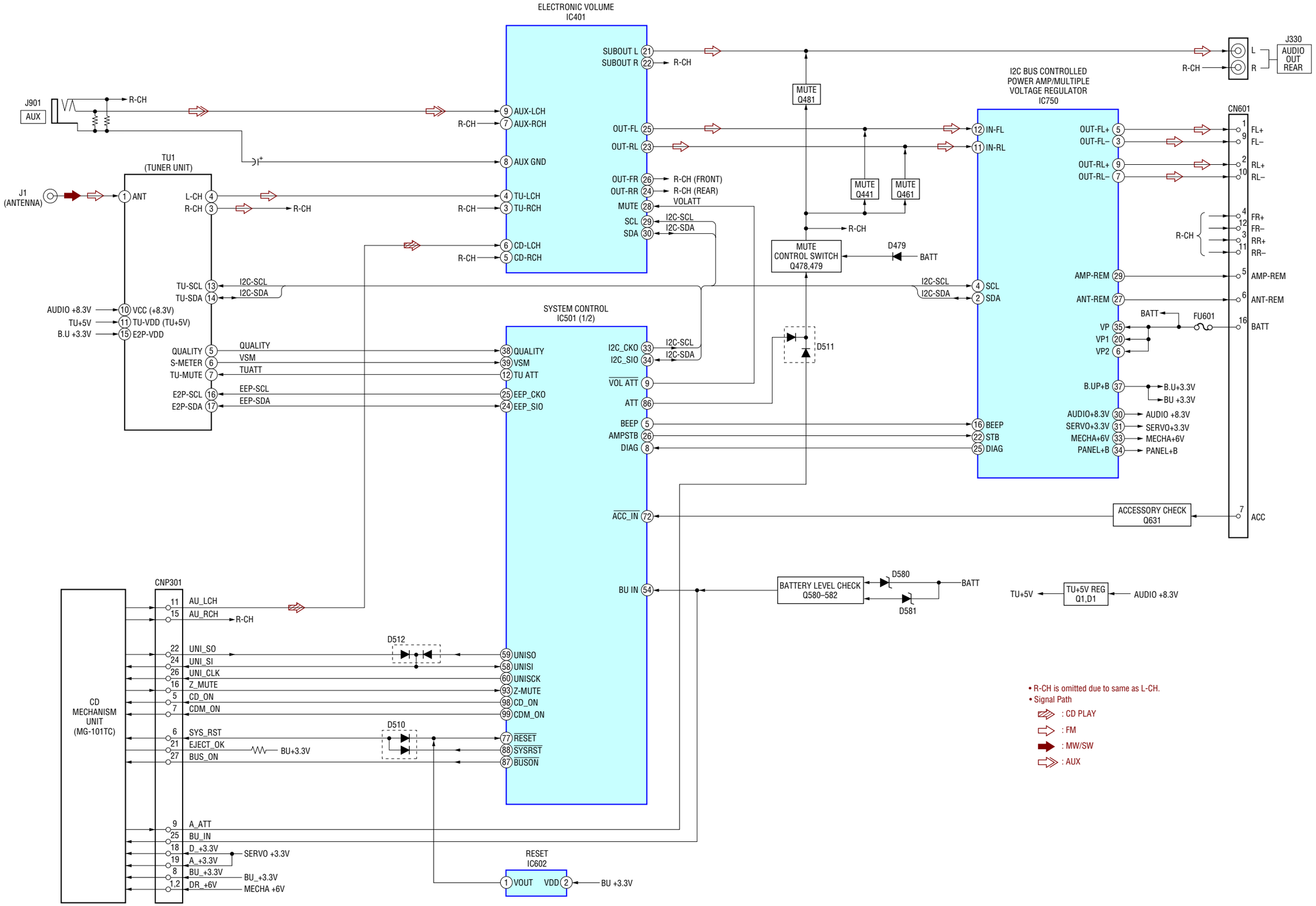
The display mode is switched by each rotation of [2] or [1] keys during the OFFSET/FAILURE error display mode.



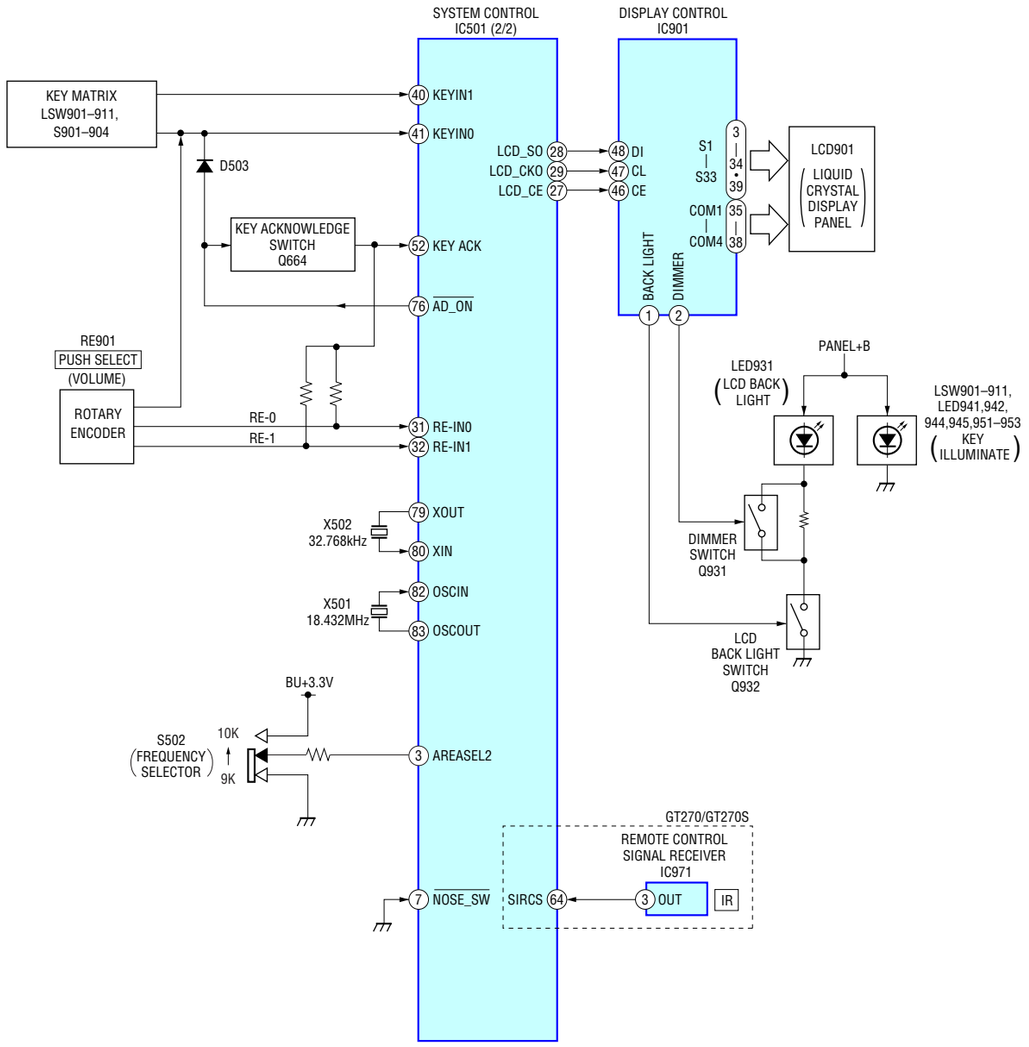
MEMO

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM — MAIN SECTION —



5-2. BLOCK DIAGRAM — DISPLAY SECTION —



• NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in μF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line.
- ▬ ▬ : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM/MW/SW
  < > : CD PLAY
  ✻ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD PLAY
  ⇨ : FM
  ➡ : MW/SW
  ⇨ : AUX

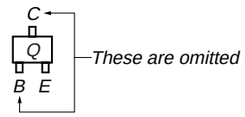
For printed wiring boards.

Note:

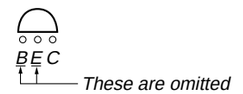
- o—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

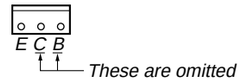
Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.



These are omitted



These are omitted



These are omitted

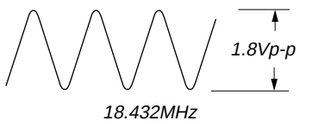
• Waveforms

— MAIN Board —

① IC501 ⑲ (XOUT)

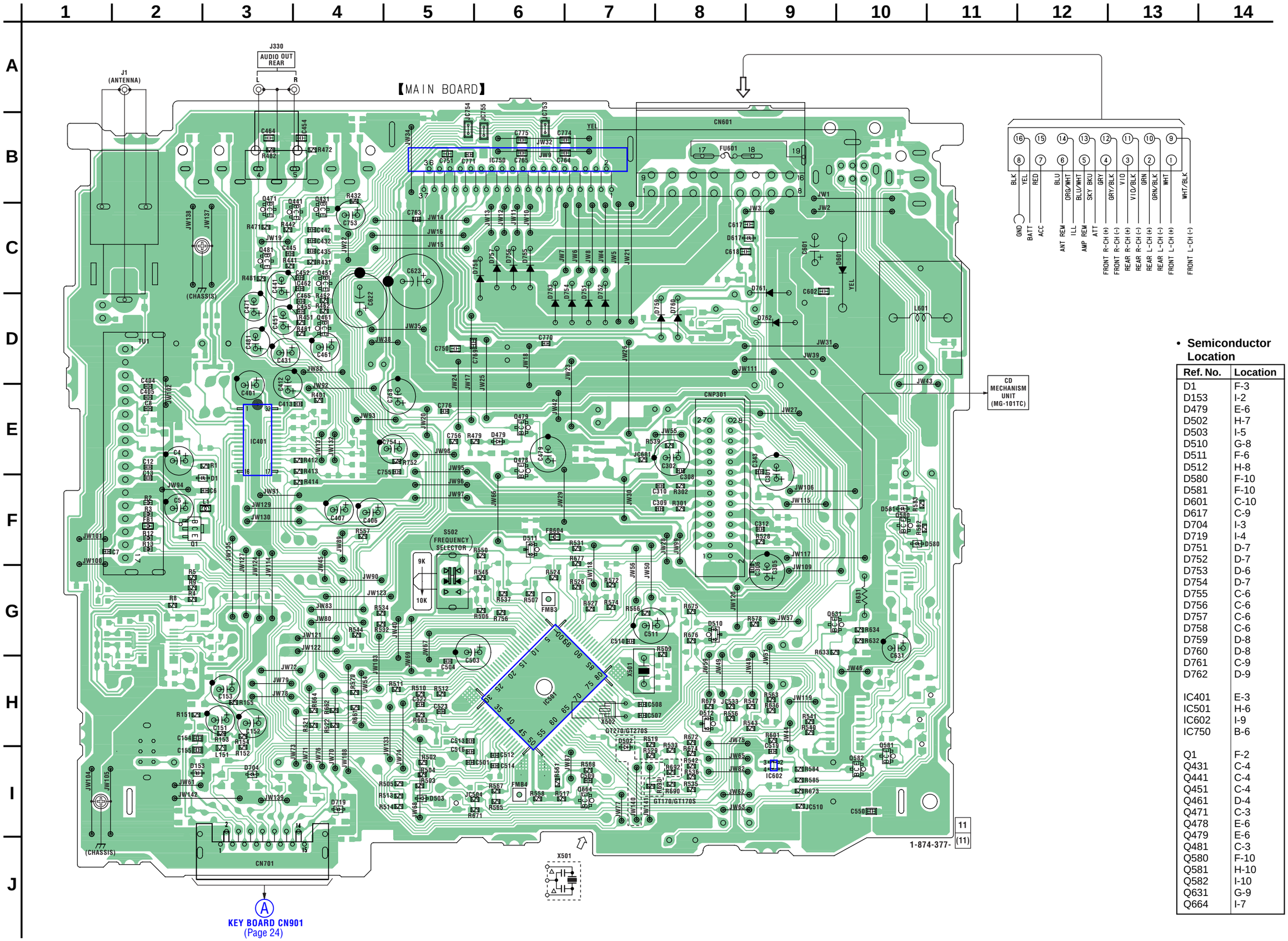
0.5 V/DIV, 20 μsec/DIV

② IC501 ㉓ (OSCOUT)



0.5 V/DIV, 20 nsec/DIV

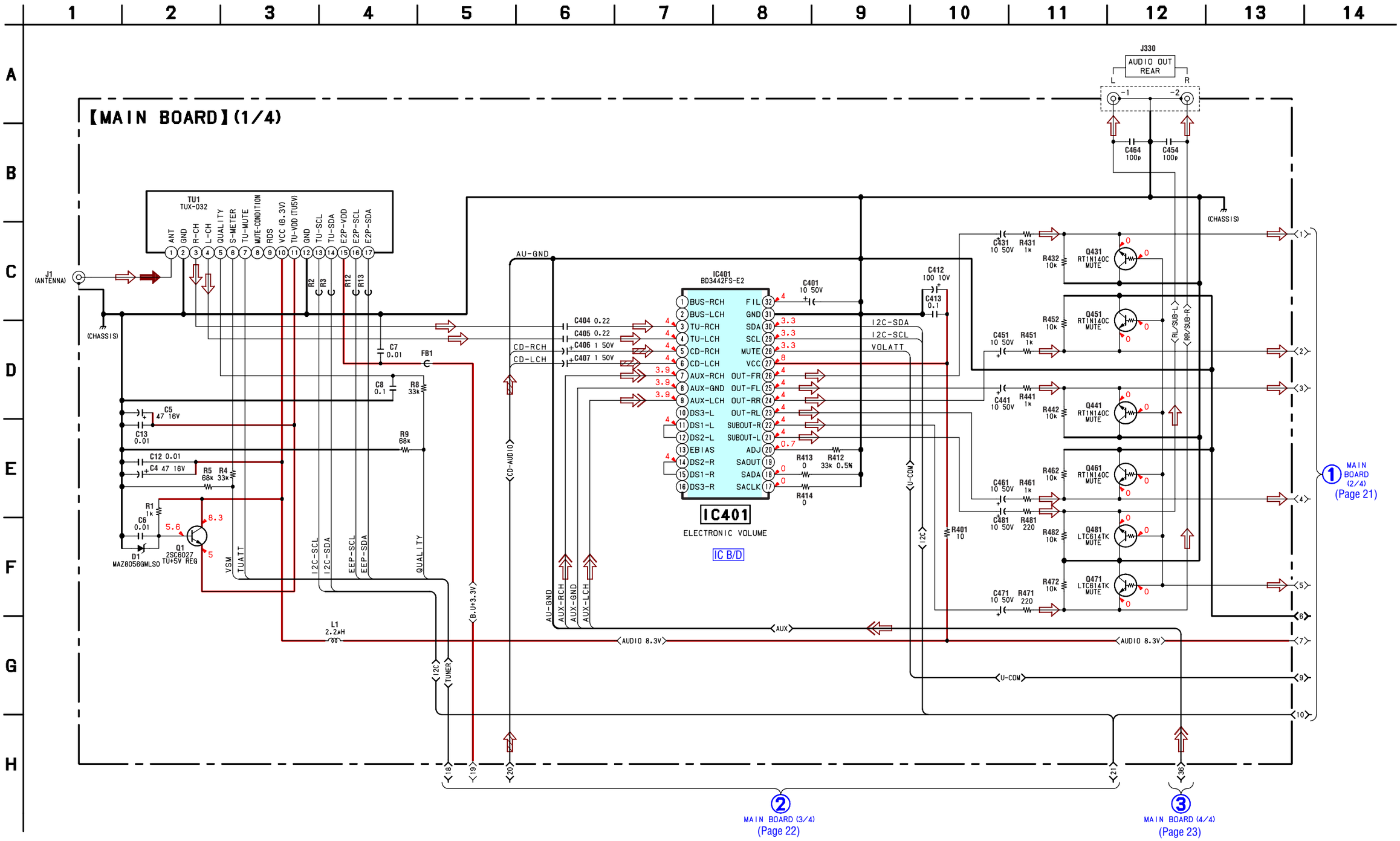
5-3. PRINTED WIRING BOARD — MAIN SECTION — : Uses unleaded solder.



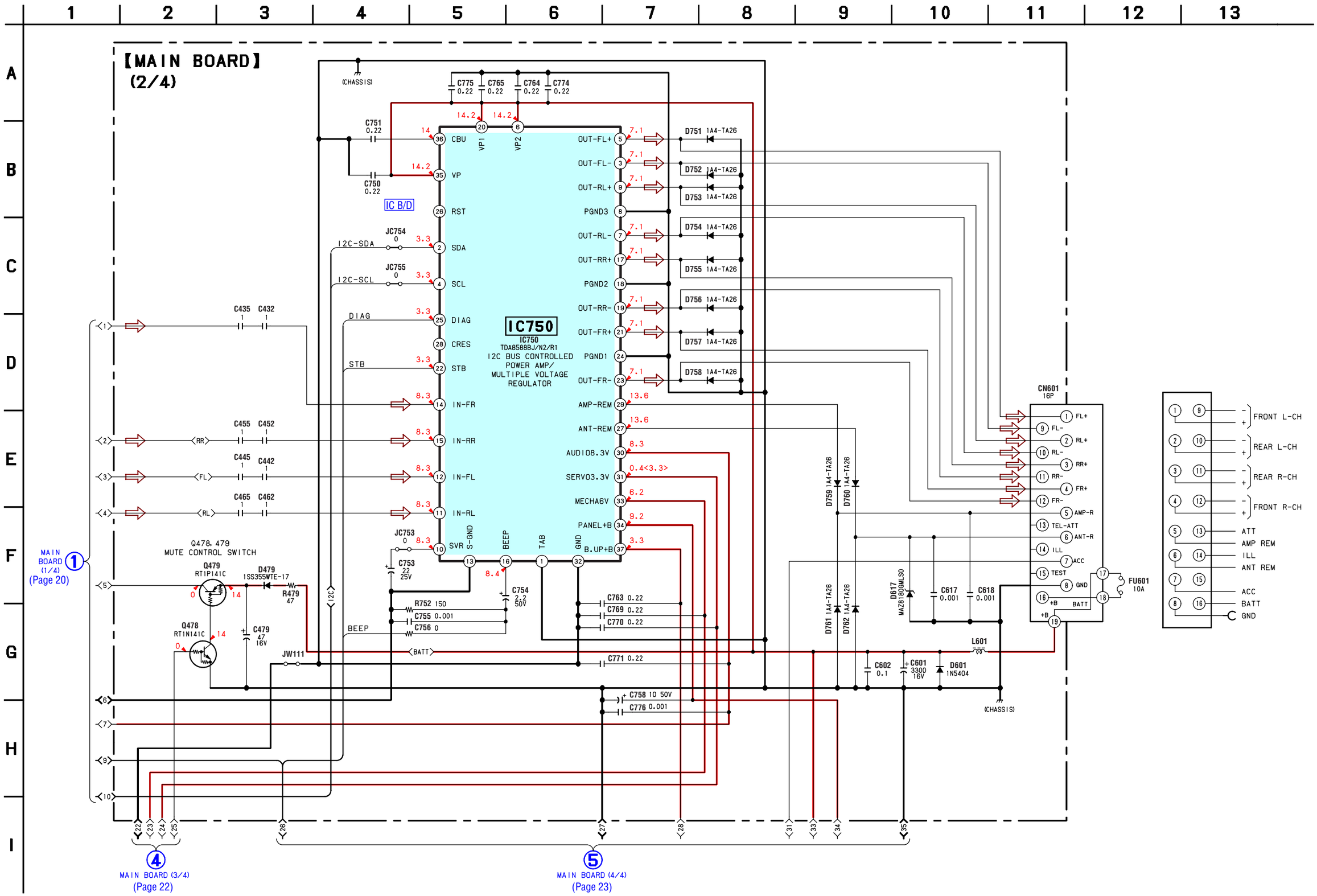
- **Semiconductor Location**

Ref. No.	Location
D1	F-3
D153	I-2
D479	E-6
D502	H-7
D503	I-5
D510	G-8
D511	F-6
D512	H-8
D580	F-10
D581	F-10
D601	C-10
D617	C-9
D704	I-3
D719	I-4
D751	D-7
D752	D-7
D753	D-6
D754	D-7
D755	C-6
D756	C-6
D757	C-6
D758	C-6
D759	D-8
D760	D-8
D761	C-9
D762	D-9
IC401	E-3
IC501	H-6
IC602	I-9
IC750	B-6
Q1	F-2
Q431	C-4
Q441	C-4
Q451	C-4
Q461	D-4
Q471	C-3
Q478	E-6
Q479	E-6
Q481	C-3
Q580	F-10
Q581	H-10
Q582	I-10
Q631	G-9
Q664	I-7

5-4. SCHEMATIC DIAGRAM — MAIN SECTION (1/4) — • Refer to page 26 for IC Block Diagrams.

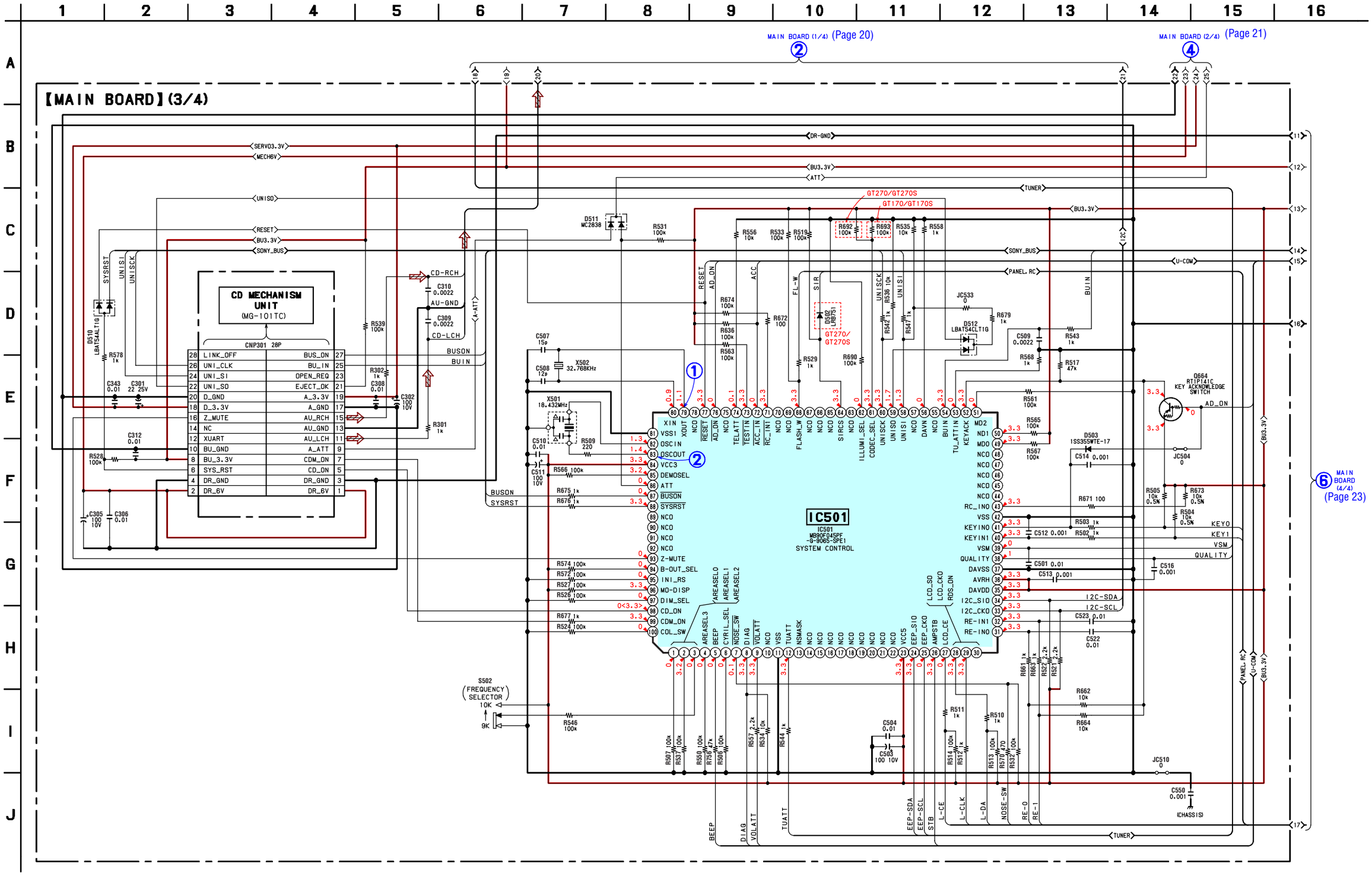


5-5. SCHEMATIC DIAGRAM — MAIN SECTION (2/4) — • Refer to page 26 for IC Block Diagrams.

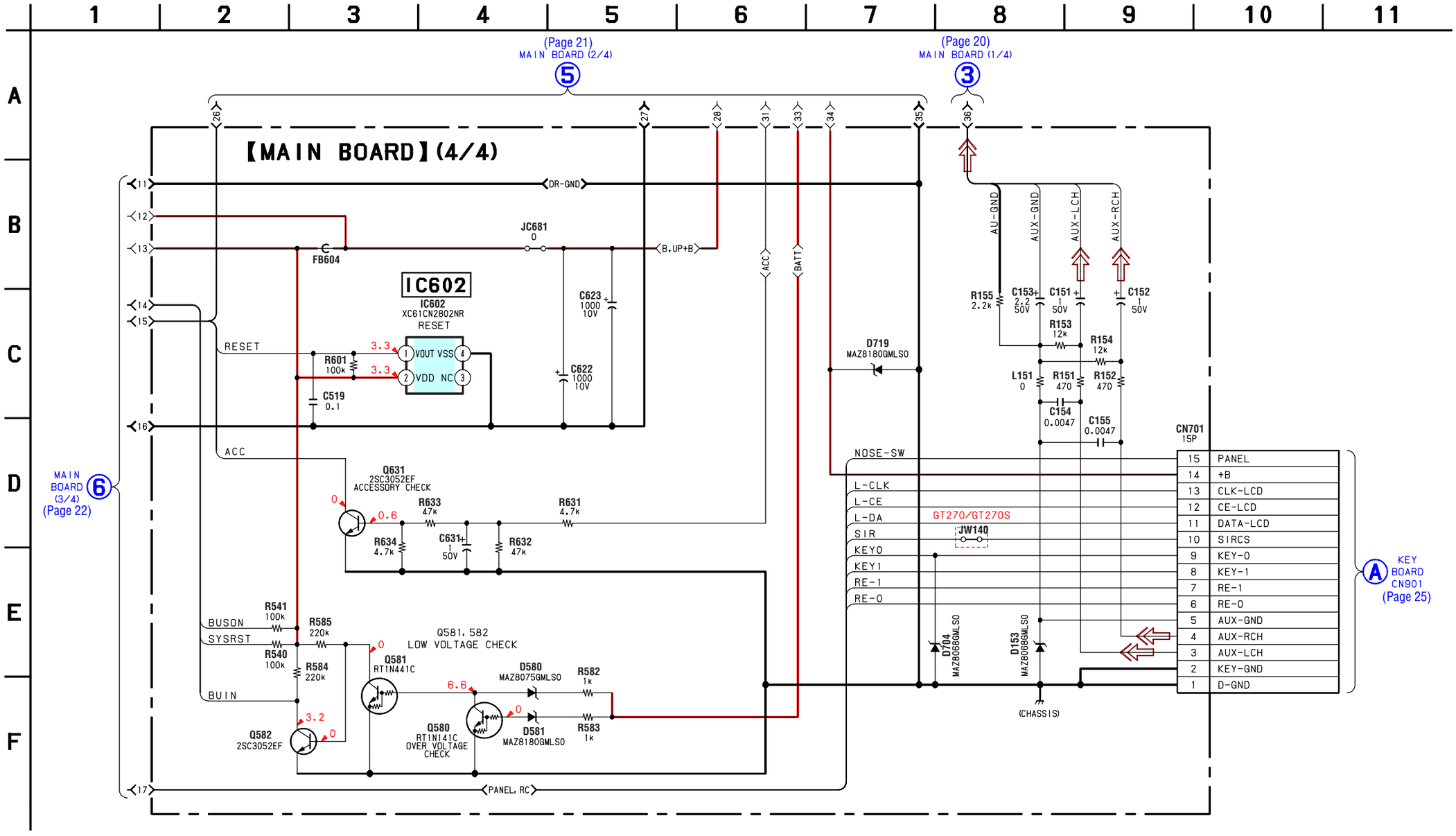


5-6. SCHEMATIC DIAGRAM — MAIN SECTION (3/4) —

- Refer to page 18 for Waveforms.
- Refer to page 27 for IC Pin Description of IC501.

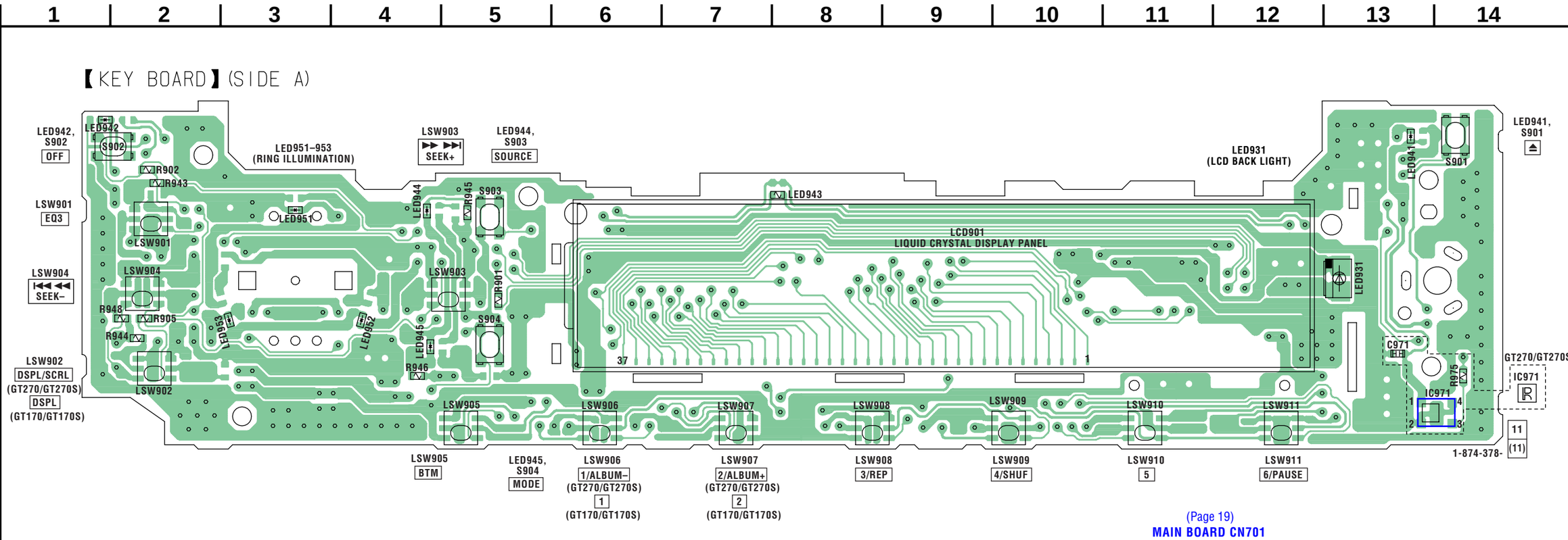


5-7. SCHEMATIC DIAGRAM — MAIN SECTION (4/4) — • Refer to page 26 for IC Block Diagrams.

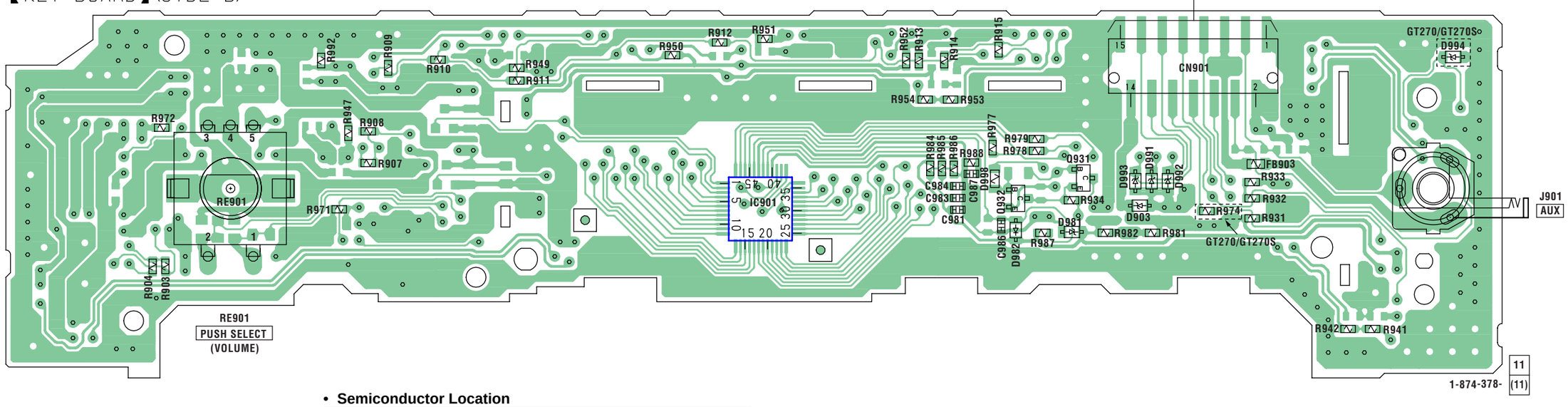


5-8. PRINTED WIRING BOARD — KEY SECTION — : Uses unleaded solder.

【KEY BOARD】(SIDE A)



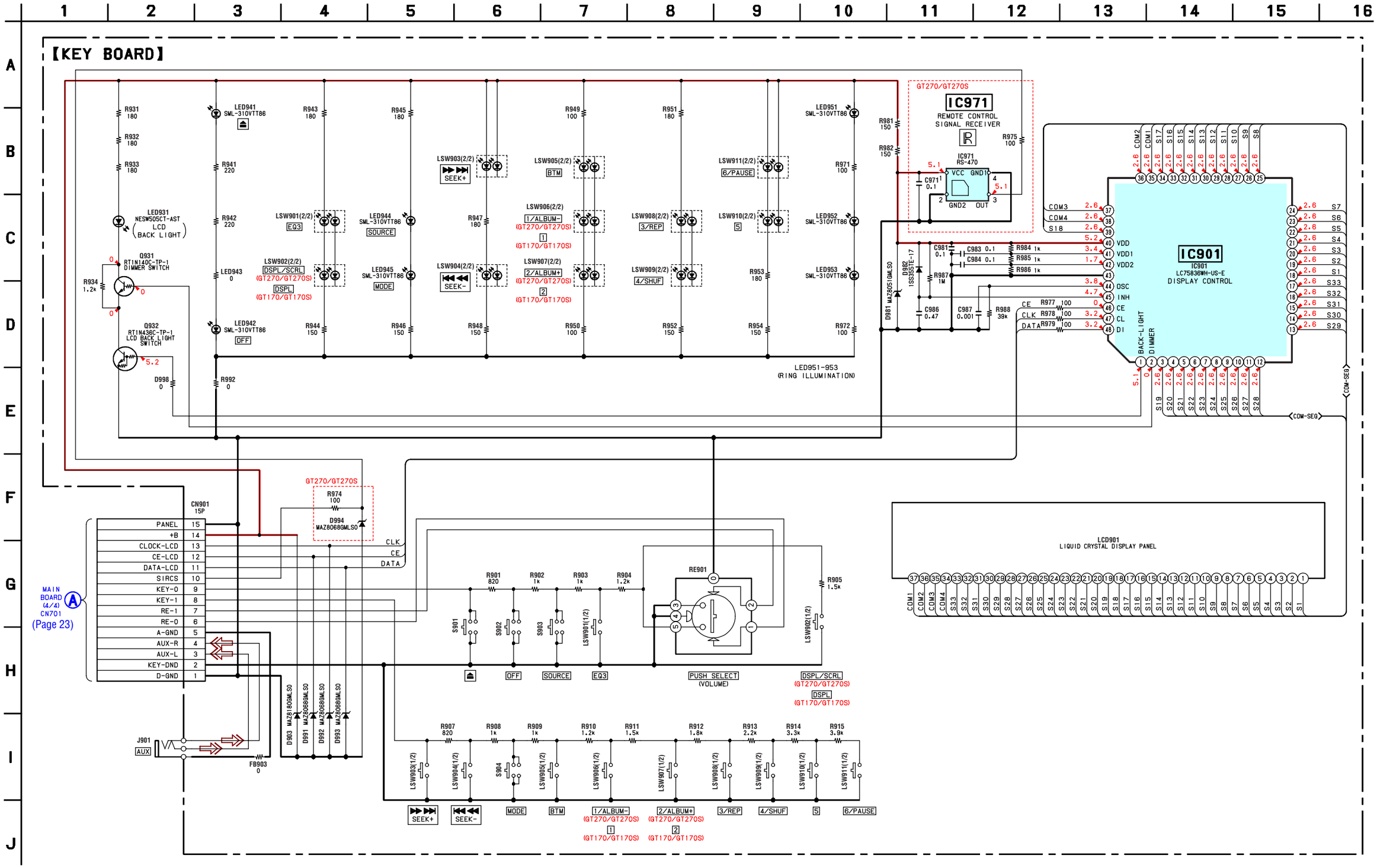
【KEY BOARD】(SIDE B)



- **Semiconductor Location**

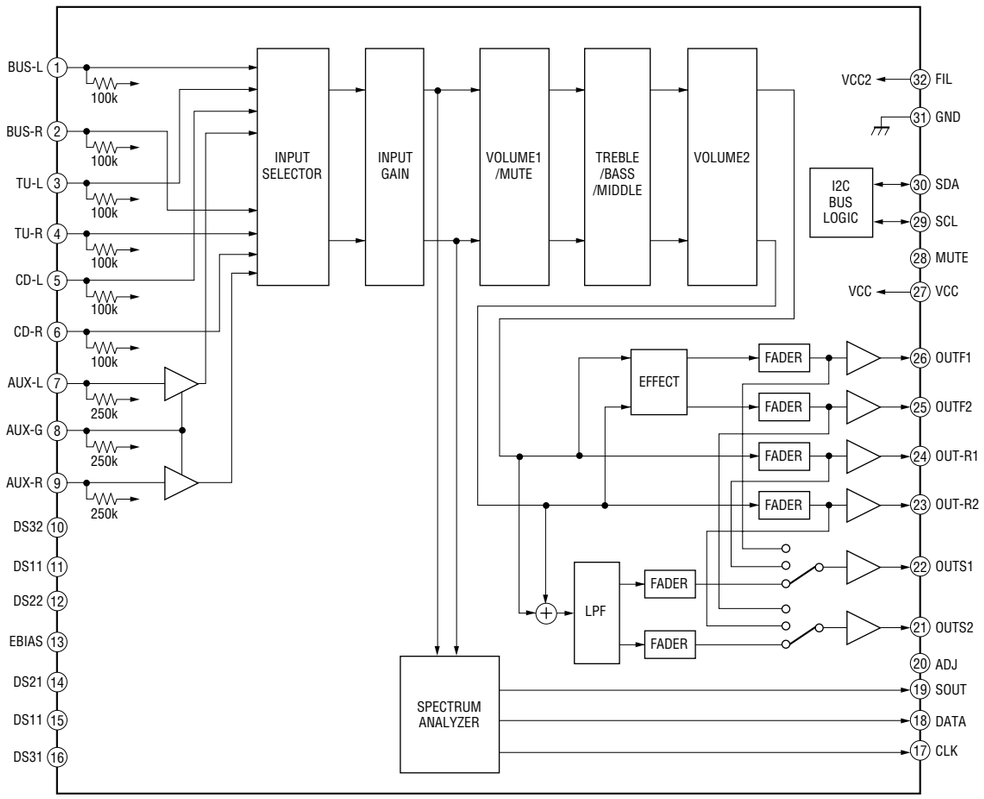
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D903	G-11	IC901	G-8	LED945	C-4
D981	H-10	IC971	D-14	LED951	B-3
D982	H-10			LED952	C-4
D991	G-11	LED931	C-13	LED953	C-3
D992	G-11	LED941	B-13		
D993	G-11	LED942	A-1	Q931	G-10
D994	F-14	LED944	B-4	Q932	G-10

5-9. SCHEMATIC DIAGRAM — KEY SECTION —

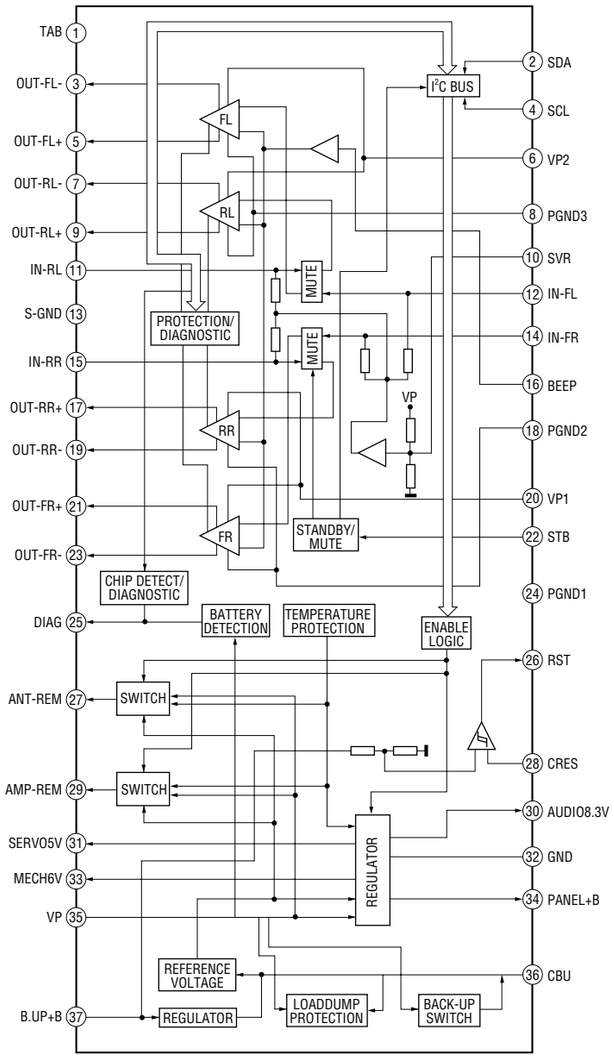


• **IC Block Diagrams**

IC401 BD3442FS-E2 (MAIN Board (1/4))



IC750 TDA8588BJ/N2/R1 (MAIN Board (2/4))



• IC PIN DESCRIPTIONS

• IC501 MB90F045PF-G-9065-SPE1 (SYSTEM CONTROL) (MAIN BOARD (3/4))

Pin No.	Pin Name	I/O	Pin Description
1	AREASEL0	I	Destination function setting pin 0
2	AREASEL1	I	Destination function setting pin 1
3	AREASEL2	I	Destination function setting pin 2
4	AREASEL3	I	Destination function setting pin 3
5	BEEP	O	BEEP signal output to power amplifier
6	CYRIL_SEL	I	Cyril correspondence discrimination signal input "L": No correspondence
7	$\overline{\text{NOSE\_SW}}$	I	Front panel attachment detect signal input "L": Panel on, "H": Panel off
8	DIAG	I	Status signal input from power amplifier
9	$\overline{\text{VOLATT}}$	O	Electronic volume attenuate control signal output
10	NCO	O	Not used. (Open)
11	VSS	—	Ground pin
12	TUATT	O	Tuner mute control signal output
13	NSMASK	O	Noise mask signal output Not used in this set. (Open)
14 to 22	NCO	O	Not used. (Open)
23	VCC5	—	Power supply pin (+3.3V)
24	EEP_SIO	I/O	EEPROM bus serial data signal input/output
25	EEP_CKO	O	EEPROM bus serial clock signal output
26	AMPSTB	O	Stand-by signal output to power requlation
27	LCD_CE	O	Chip enable signal output to LCD driver
28	LCD_SO	O	Serial data signal output to LCD driver
29	LCD_CKO	O	Serial clock signal output to LCD driver
30	RDS ON	O	RDS (radio data system) ON signal output Not used in this set. (Open)
31	RE-IN0	I	Rotary encoder signal input 0
32	RE-IN1	I	Rotary encoder signal input 1
33	I2C_CKO	O	I2C bus serial clock signal output
34	I2C_SIO	I/O	I2C bus serial data signal input/output
35	DAVDD	—	A/D converter power supply pin (+3.3V)
36	AVRH	—	A/D converter external reference power supply pin (+3.3V)
37	DAVSS	—	A/D converter Ground pin
38	QUALITY	I	Noise detect signal input
39	VSM	I	S-meter voltage detect signal input
40	KEYIN1	I	Key signal input 1
41	KEYIN0	I	Key signal input 0
42	VSS	—	Ground pin
43	RC_IN0	I	Rotary commander key signal input Not used in this set. (Pull up)
44 to 48	NCO	O	Not used. (Open)
49	MD0	I	Operation mode setting pin 0 (Pull up)
50	MD1	I	Operation mode setting pin 1 (Pull up)
51	MD2	I	Operation mode setting pin 2 (Pull down)
52	KEYACK	I	Key acknowledgment detect signal input
53	TU_ATTIN	I	Tuner mute zero cross detect signal input Not used in this set. (Pull down)
54	BUIN	I	Back-up power supply detect signal input
55	NCO	O	Not used. (Open)
56	DAVN	I	RDS data block synchronized detect signal input Not used in this set. (Pull down)
57	NCO	O	Not used. (Open)
58	UNISI	I	S-BUS data signal input
59	UNISO	O	S-BUS data signal output
60	UNISCK	O	S-BUS clock signal output

Pin No.	Pin Name	I/O	Pin Description
61	CODEC_SEL	I	MP3 select signal input "H": MP3, "L": Non-MP3
62	ILLUMI SEL	I	Illumination voltage setting signal input "H": 10.4 V, "L": 9.0 V
63	NCO	O	Not used. (Open)
64	SIRCS	I	Remote control signal input
65 to 67	NCO	O	Not used. (Open)
68	FLASH_W	I	Memory mode select signal input Not used in this set. (Pull up) Normally "H" input: Single chip mode, after reset "L": Flash write mode
69, 70	NCO	O	Not used. (Open)
71	$\overline{\text{RC\_IN1}}$	I	Rotary commander shift key signal input Not used in this set. (Pull up)
72	$\overline{\text{ACC\_IN}}$	I	Accessory power supply detect signal input
73	$\overline{\text{TESTIN}}$	I	Test mode detect signal input Not used in this set. (Pull up)
74	TELATT	I	Telephone attenuate detect signal input Not used in this set. (Pull down)
75	NCO	O	Not used. (Open)
76	$\overline{\text{AD\_ON}}$	O	A/D converter power supply control signal output
77	$\overline{\text{RESET}}$	I	System reset signal input
78	NCO	O	Not used. (Open)
79	XOUT	O	Low speed operation clock signal output (32.768 kHz)
80	XIN	I	Low speed operation clock signal input (32.768 kHz)
81	VSS1	—	Ground pin
82	OSCIN	I	High speed operation clock signal input (18.432 MHz)
83	OSCOUT	O	High speed operation clock signal output (18.432 MHz)
84	VCC3	—	Power supply pin (+3.3 V)
85	DEMOSEL	I	DEMO select signal input "H": DEMO on, "L": DEMO off
86	ATT	O	Audio mute control signal output
87	$\overline{\text{BUSON}}$	O	BUS ON signal output
88	$\overline{\text{SYSRST}}$	O	System reset signal output
89 to 92	NCO	O	Not used. (Open)
93	Z-MUTE	I	CD zero cross mute detect signal input
94	B OUT SEL	I	Black out with/without discrimination select signal input "H": Black out
95	INI RS	I	REAR/SUB INITIAL setting signal input "H": REAR INITIAL, "L": SUB INITIAL
96	MO-DISP	I	Motion display signal input "H": Motion display on, "L": Motion display off
97	DIM_SEL	I	Dimmer select signal input "H": Dimmer, "L": No dimmer Not used in this set. (Pull down)
98	CD_ON	I	CD mechanism servo power supply control request signal input
99	CDM_ON	I	CD mechanism deck power supply control request signal input
100	COL_SW	I	Illumination color select signal input Not used in this set. (Pull down) "H": Two colors selection/initial slave, amber, "L": Color/slave, amber

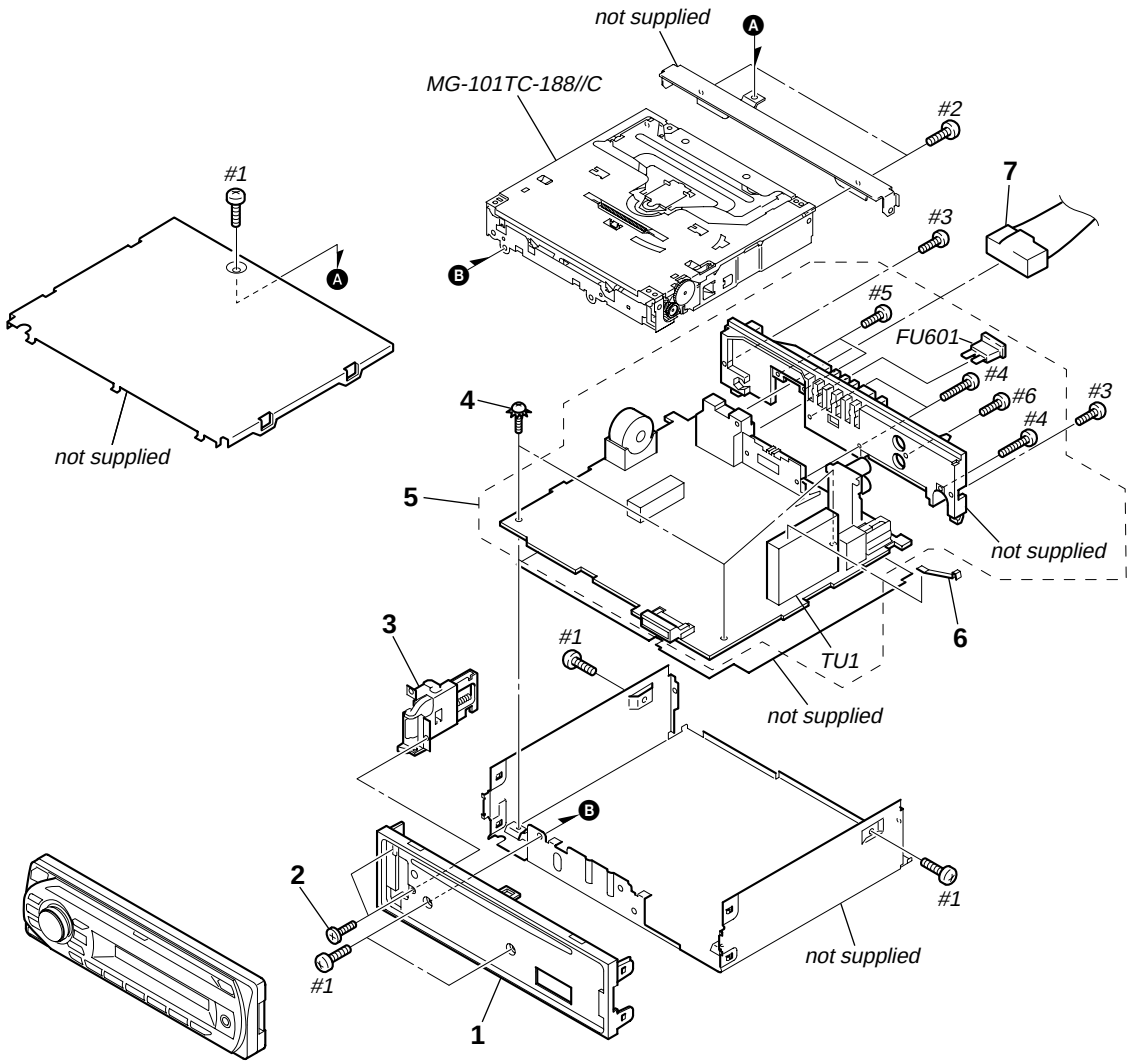
SECTION 6
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

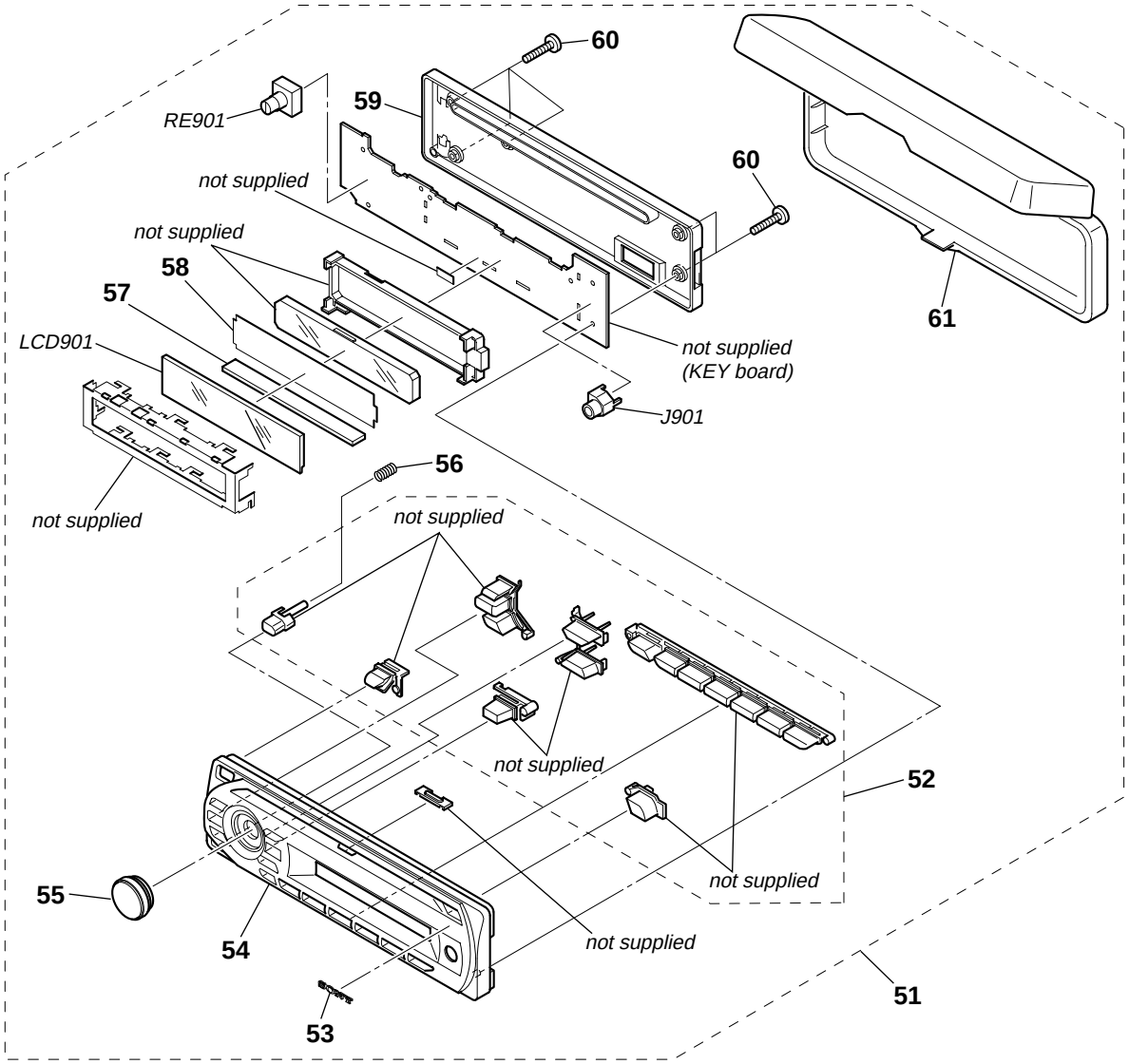
6-1. MAIN SECTION



Ref. No.	Part No.	Description	Remark
1	X-2178-981-1	PANEL ASSY, SUB	
2	2-583-939-01	SCREW (+B 2X4)	
3	X-2179-691-1	LOCK ASSY	
4	2-348-996-01	SCREW (+PTT 2.6X6), GROUND POINT	
5	A-1286-356-A	MAIN BOARD, COMPLETE (GT270/GT270S)	
5	A-1286-389-A	MAIN BOARD, COMPLETE (GT170/GT170S)	
6	2-345-298-01	PLATE (TU), GROUND	
7	1-833-974-31	CONNECTION CORD FOR AUTOMOBILE (POWER)	

Ref. No.	Part No.	Description	Remark
FU601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU1	A-3220-960-B	TUNER UNIT (TUX-032)	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-685-790-01	SCREW +PTT 2.6X4 (S)	
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#4	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#5	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#6	7-621-284-40	SCREW +P 2.6X10	

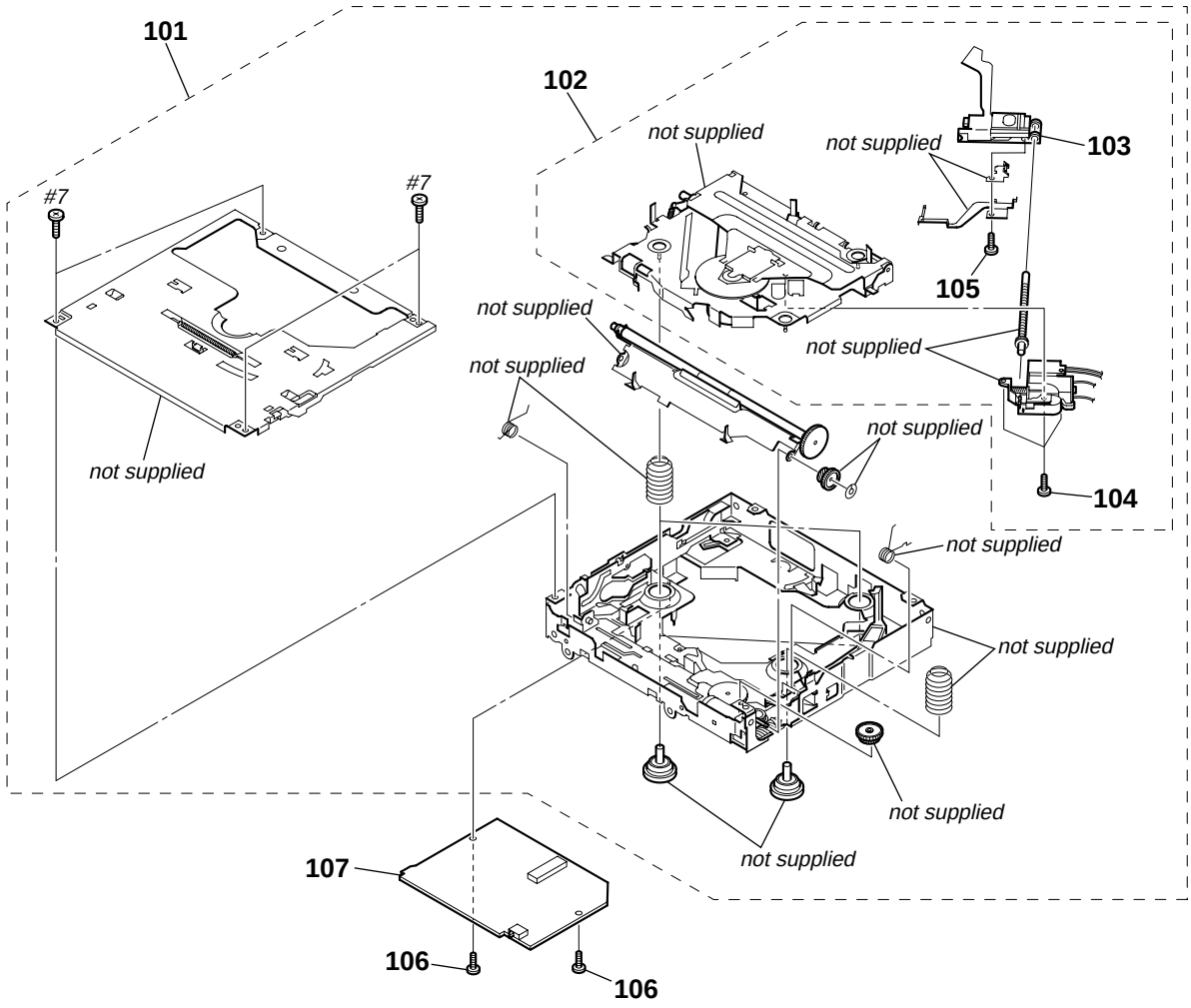
6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	A-1286-360-A	PANEL COMPLETE ASSY, FRONT (GT270)	
51	A-1286-366-A	PANEL COMPLETE ASSY, FRONT (GT270S)	
51	A-1286-391-A	PANEL COMPLETE ASSY, FRONT (GT170)	
51	A-1286-398-A	PANEL COMPLETE ASSY, FRONT (GT170S)	
52	X-2178-983-1	BUTTON ASSY (S)	
53	3-251-320-01	EMBLEM (NO. 2.5), SONY	
54	A-1286-362-A	PANEL SUB ASSY, FRONT (GT270)	
54	A-1286-368-A	PANEL SUB ASSY, FRONT (GT270S)	
54	A-1286-393-A	PANEL SUB ASSY, FRONT (GT170)	
54	A-1286-400-A	PANEL SUB ASSY, FRONT (GT170S)	
55	X-2178-982-1	KNOB (VOL) (SV) ASSY (GT170/GT170S)	

Ref. No.	Part No.	Description	Remark
55	X-2186-575-1	KNOB (VOL) (SV) ASSY (GT270/GT270S)	
56	2-349-626-01	SPRING (RELEASE)	
57	1-780-533-11	CONDUCTIVE BOARD, CONNECTION	
58	3-214-226-11	ILLUMINATOR (LCD)	
59	3-214-215-01	PANEL, BACK	
60	3-250-543-91	SCREW (+B P-TITE M2)	
61	X-2186-697-1	CASE ASSY (for FRONT PANEL)	
J901	1-820-624-11	SMALL TYPE JACK (VERTICAL) (AUX)	
LCD901	1-802-511-11	DISPLAY PANEL, LIQUID CRYSTAL	
RE901	1-479-902-21	ENCODER, ROTARY (PUSH SELECT/VOLUME)	

6-3. CD MECHANISM SECTION (MG-101TC-188//C)



Ref. No.	Part No.	Description	Remark
101	A-1283-704-A	MECHANICAL BLOCK ASSY (08)	
102	A-1283-705-A	DAXEV08//C	
⚠103	X-2149-672-1	SERVICE ASSY, OP (DAX-25A)	
104	2-626-869-21	SCREW (M2X3), SERRATION	
105	3-348-998-31	SCREW (M1.4X2.5), TAPPING, PAN	
106	3-352-758-31	SCREW (M1.7X2.5), TOOTHED LOCK	
107	A-1201-631-A	SERVO BOARD, COMPLETE	
#7	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE 3	

KEY

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Abbreviation
  CH : Chinese model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		**********			
	1-780-533-11	CONDUCTIVE BOARD, CONNECTION			
	3-214-226-11	ILLUMINATOR (LCD)			
		< CAPACITOR >			
C971	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	(GT270/GT270S)
C981	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C983	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C984	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C986	1-125-891-11	CERAMIC CHIP	0.47uF	10% 10V	
C987	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
		< CONNECTOR >			
CN901	1-819-758-12	PLUG, CONNECTOR 15P			
		< DIODE >			
D903	6-501-782-01	DIODE MAZ8180GMLS0			
D981	6-501-730-01	DIODE MAZ8051GMLS0			
D982	8-719-988-61	DIODE 1SS355TE-17			
D991	6-501-743-01	DIODE MAZ8068GMLS0			
D992	6-501-743-01	DIODE MAZ8068GMLS0			
D993	6-501-743-01	DIODE MAZ8068GMLS0			
D994	6-501-743-01	DIODE MAZ8068GMLS0			(GT270/GT270S)
D998	1-216-295-11	SHORT CHIP	0		
		< JUMPER RESISTOR >			
FB903	1-216-295-11	SHORT CHIP	0		
		< IC >			
IC901	6-710-047-01	IC LC75836WH-US-E			
IC971	6-600-629-01	IC RS-470 (IR) (GT270/GT270S)			
		< JACK >			
J901	1-820-624-11	SMALL TYPE JACK (VERTICAL) (AUX)			
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-802-511-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED931	6-501-339-01	LED NESW505CT-AST (LCD BACK LIGHT)			
LED941	8-719-053-09	LED SML-310VTT86 (⏏)			
LED942	8-719-053-09	LED SML-310VTT86 (OFF)			
LED943	1-216-864-11	SHORT CHIP	0		
LED944	8-719-053-09	LED SML-310VTT86 (SOURCE)			
LED945	8-719-053-09	LED SML-310VTT86 (MODE)			
LED951	8-719-053-09	LED SML-310VTT86 (RING ILLUMINATION)			
LED952	8-719-053-09	LED SML-310VTT86 (RING ILLUMINATION)			
LED953	8-719-053-09	LED SML-310VTT86 (RING ILLUMINATION)			
		< SWITCH >			
LSW901	1-786-805-12	SWITCH, TACTILE (WITH LED) (EQ3)			
LSW902	1-786-805-12	SWITCH, TACTILE (WITH LED) (DSPL)			(GT170/GT170S)
LSW902	1-786-805-12	SWITCH, TACTILE (WITH LED) (DSPL/SCRL)			(GT270/GT270S)
LSW903	1-786-805-12	SWITCH, TACTILE (WITH LED)			(▶▶ ▶▶I SEEK+)
LSW904	1-786-805-12	SWITCH, TACTILE (WITH LED)			(I◀◀ ◀◀ SEEK–)
LSW905	1-786-805-12	SWITCH, TACTILE (WITH LED) (BTM)			
LSW906	1-786-805-12	SWITCH, TACTILE (WITH LED) (1)			(GT170/GT170S)
LSW906	1-786-805-12	SWITCH, TACTILE (WITH LED) (1/ALBUM –)			(GT270/GT270S)
LSW907	1-786-805-12	SWITCH, TACTILE (WITH LED) (2)			(GT170/GT170S)
LSW907	1-786-805-12	SWITCH, TACTILE (WITH LED) (2/ALBUM +)			(GT270/GT270S)
LSW908	1-786-805-12	SWITCH, TACTILE (WITH LED) (3/REP)			
LSW909	1-786-805-12	SWITCH, TACTILE (WITH LED) (4/SHUF)			
LSW910	1-786-805-12	SWITCH, TACTILE (WITH LED) (5)			
LSW911	1-786-805-12	SWITCH, TACTILE (WITH LED) (6/PAUSE)			
		< TRANSISTOR >			
Q931	8-729-027-44	TRANSISTOR DTC114TKA-T146			
Q932	6-551-444-01	TRANSISTOR RT1N436C-TP-1			
		< RESISTOR >			
R901	1-216-820-11	METAL CHIP	820	5% 1/10W	
R902	1-216-821-11	METAL CHIP	1K	5% 1/10W	
R903	1-216-821-11	METAL CHIP	1K	5% 1/10W	
R904	1-216-822-11	METAL CHIP	1.2K	5% 1/10W	
R905	1-216-823-11	METAL CHIP	1.5K	5% 1/10W	
R907	1-216-820-11	METAL CHIP	820	5% 1/10W	
R908	1-216-821-11	METAL CHIP	1K	5% 1/10W	
R909	1-216-821-11	METAL CHIP	1K	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R910	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R911	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R912	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R913	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R914	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R915	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R931	1-216-812-11	METAL CHIP	180	5%	1/10W
R932	1-216-812-11	METAL CHIP	180	5%	1/10W
R933	1-216-812-11	METAL CHIP	180	5%	1/10W
R934	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R941	1-216-813-11	METAL CHIP	220	5%	1/10W
R942	1-216-813-11	METAL CHIP	220	5%	1/10W
R943	1-216-812-11	METAL CHIP	180	5%	1/10W
R944	1-216-811-11	METAL CHIP	150	5%	1/10W
R945	1-216-812-11	METAL CHIP	180	5%	1/10W
R946	1-216-811-11	METAL CHIP	150	5%	1/10W
R947	1-216-812-11	METAL CHIP	180	5%	1/10W
R948	1-216-811-11	METAL CHIP	150	5%	1/10W
R949	1-216-809-11	METAL CHIP	100	5%	1/10W
R950	1-216-809-11	METAL CHIP	100	5%	1/10W
R951	1-216-812-11	METAL CHIP	180	5%	1/10W
R952	1-216-811-11	METAL CHIP	150	5%	1/10W
R953	1-216-812-11	METAL CHIP	180	5%	1/10W
R954	1-216-811-11	METAL CHIP	150	5%	1/10W
R971	1-216-809-11	METAL CHIP	100	5%	1/10W
R972	1-216-809-11	METAL CHIP	100	5%	1/10W
R974	1-216-809-11	METAL CHIP	100	5%	1/10W (GT270/GT270S)
R975	1-216-809-11	METAL CHIP	100	5%	1/10W (GT270/GT270S)
R977	1-216-809-11	METAL CHIP	100	5%	1/10W
R978	1-216-809-11	METAL CHIP	100	5%	1/10W
R979	1-216-809-11	METAL CHIP	100	5%	1/10W
R981	1-216-811-11	METAL CHIP	150	5%	1/10W
R982	1-216-811-11	METAL CHIP	150	5%	1/10W
R984	1-216-821-11	METAL CHIP	1K	5%	1/10W
R985	1-216-821-11	METAL CHIP	1K	5%	1/10W
R986	1-216-821-11	METAL CHIP	1K	5%	1/10W
R987	1-216-857-11	METAL CHIP	1M	5%	1/10W
R988	1-216-840-11	METAL CHIP	39K	5%	1/10W
R992	1-216-864-11	SHORT CHIP	0		
		< ROTARY ENCODER >			
RE901	1-479-902-21	ENCODER, ROTARY (PUSH SELECT/VOLUME)			
		< SWITCH >			
S901	1-786-653-11	SWITCH, TACTILE (⏏)			
S902	1-786-653-11	SWITCH, TACTILE (OFF)			
S903	1-786-653-11	SWITCH, TACTILE (SOURCE)			
S904	1-786-653-11	SWITCH, TACTILE (MODE)			

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Ref. No.	Part No.	Description			Remark
	A-1286-356-A	MAIN BOARD, COMPLETE (GT270/GT270S)			
	A-1286-389-A	MAIN BOARD, COMPLETE (GT170/GT170S)			
		**********			
	7-621-284-40	SCREW +P 2.6X10			
	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C4	1-126-947-11	ELECT	47uF	20%	35V
C5	1-126-947-11	ELECT	47uF	20%	35V
C6	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C7	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C8	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C12	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C13	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C151	1-126-960-11	ELECT	1uF	20%	50V
C152	1-126-960-11	ELECT	1uF	20%	50V
C153	1-126-961-11	ELECT	2.2uF	20%	50V
C154	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C155	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C301	1-124-248-00	ELECT	22uF	20%	25V
C302	1-124-584-00	ELECT	100uF	20%	10V
C305	1-124-584-00	ELECT	100uF	20%	10V
C306	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C308	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C309	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C310	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C343	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-126-964-11	ELECT	10uF	20%	50V
C404	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C405	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C406	1-126-160-11	ELECT	1uF	20%	50V
C407	1-126-160-11	ELECT	1uF	20%	50V
C412	1-104-665-11	ELECT	100uF	20%	25V
C413	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C431	1-126-964-11	ELECT	10uF	20%	50V
C432	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C435	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C441	1-126-964-11	ELECT	10uF	20%	50V
C442	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C445	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C451	1-126-964-11	ELECT	10uF	20%	50V
C452	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C454	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C455	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C461	1-126-964-11	ELECT	10uF	20%	50V
C462	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C464	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C465	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C471	1-126-964-11	ELECT	10uF	20%	50V
C479	1-124-589-11	ELECT	47uF	20%	16V
C481	1-126-964-11	ELECT	10uF	20%	50V
C501	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C503	1-124-584-00	ELECT	100uF	20%	10V
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C507	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C508	1-162-916-11	CERAMIC CHIP	12PF	5%	50V

MAIN

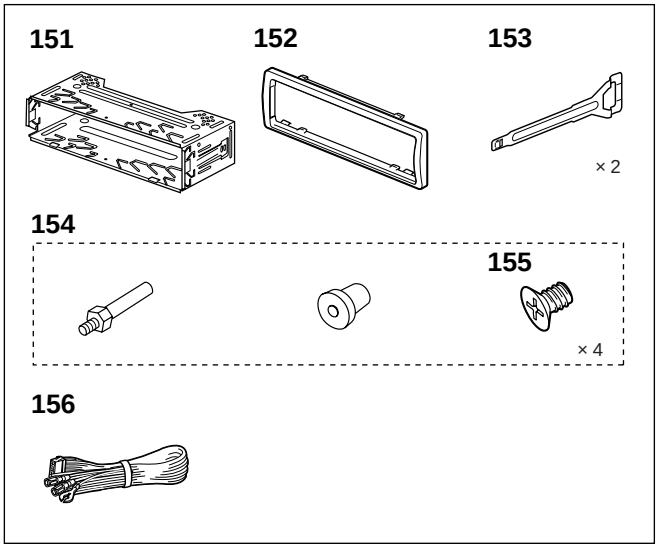
Ref. No.	Part No.	Description			Remark
C509	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C510	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C511	1-124-584-00	ELECT	100uF	20%	10V
C512	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C513	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C514	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C516	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C519	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C522	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C523	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C550	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-112-302-11	ELECT	3300uF	20%	16V
C602	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C617	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C618	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C622	1-126-926-11	ELECT	1000uF	20%	10V
C623	1-126-926-11	ELECT	1000uF	20%	10V
C631	1-126-160-11	ELECT	1uF	20%	50V
C750	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C751	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C753	1-128-551-11	ELECT	22uF	20%	63V
C754	1-124-257-00	ELECT	2.2uF	20%	50V
C755	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C756	1-216-864-11	SHORT CHIP	0		
C758	1-124-261-00	ELECT	10uF	20%	50V
C763	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C764	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C765	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C769	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C770	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C771	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C774	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C775	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C776	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN601	1-774-701-21	PIN, CONNECTOR 16P			
CN701	1-819-773-13	SOCKET, CONNECTOR 15P			
CNP301	1-820-611-11	CONNECTOR, BOARD TO BOARD 28P			
		< DIODE >			
D1	6-501-734-01	DIODE	MAZ8056GMLS0		
D153	6-501-743-01	DIODE	MAZ8068GMLS0		
D479	6-501-193-01	DIODE	1SS355WTE-17		
D502	6-502-131-01	DIODE	LRB751V-40T1G (GT270/GT270S)		
D503	6-501-193-01	DIODE	1SS355WTE-17		
D510	6-501-656-01	DIODE	LBAT54ALT1G		
D511	6-500-335-01	DIODE	MC2838-T112-1		
D512	6-501-654-01	DIODE	LBAT54CLT1G		
D580	6-501-747-01	DIODE	MAZ8075GMLS0		
D581	6-501-782-01	DIODE	MAZ8180GMLS0		
D601	6-501-571-01	DIODE	1N5404-C311-3		
D617	6-501-782-01	DIODE	MAZ8180GMLS0		
D704	6-501-743-01	DIODE	MAZ8068GMLS0		
D719	6-501-782-01	DIODE	MAZ8180GMLS0		
D751	6-501-362-01	DIODE	1A4-TA26		
D752	6-501-362-01	DIODE	1A4-TA26		
D753	6-501-362-01	DIODE	1A4-TA26		
D754	6-501-362-01	DIODE	1A4-TA26		
D755	6-501-362-01	DIODE	1A4-TA26		
D756	6-501-362-01	DIODE	1A4-TA26		
D757	6-501-362-01	DIODE	1A4-TA26		
D758	6-501-362-01	DIODE	1A4-TA26		
D759	6-501-362-01	DIODE	1A4-TA26		
D760	6-501-362-01	DIODE	1A4-TA26		
D761	6-501-362-01	DIODE	1A4-TA26		
D762	6-501-362-01	DIODE	1A4-TA26		
		< FERRITE BEAD >			
FB1	1-500-245-11	INDUCTOR, FERRITE BEAD			
FB604	1-500-245-11	INDUCTOR, FERRITE BEAD			
		< FUSE >			
FU601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A			
		< IC >			
IC401	6-710-065-01	IC	BD3442FS-E2		
IC501	6-807-750-01	IC	MB90F045PF-G-9065-SPE1		
IC602	6-709-458-01	IC	XC61CN2802NR		
IC750	6-705-360-02	IC	TDA8588BJ/N2/R1		
		< JACK >			
J1	1-815-185-13	JACK (ANTENNA)			
J330	1-774-698-11	JACK, PIN 2P (AUDIO OUT REAR)			
		< JUMPER RESISTOR >			
JC504	1-216-864-11	SHORT CHIP	0		
JC510	1-216-864-11	SHORT CHIP	0		
JC533	1-216-864-11	SHORT CHIP	0		
JC681	1-216-864-11	SHORT CHIP	0		
JC753	1-216-296-11	SHORT CHIP	0		
JC754	1-216-296-11	SHORT CHIP	0		
JC755	1-216-296-11	SHORT CHIP	0		
		< COIL >			
L1	1-469-844-11	INDUCTOR	2.2uH		
L151	1-216-295-11	SHORT CHIP	0		
L601	1-456-617-11	COIL, CHOKE			
		< TRANSISTOR >			
Q1	6-551-431-01	TRANSISTOR	2SC6027T100-QR		
Q431	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q441	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q451	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q461	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q471	6-551-856-01	TRANSISTOR	LTC614TKFP8T146		
Q478	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q479	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q481	6-551-856-01	TRANSISTOR	LTC614TKFP8T146		
Q580	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q581	8-729-038-28	TRANSISTOR	RT1N441C-TP-1		
Q582	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF		
Q631	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF		
Q664	8-729-027-23	TRANSISTOR	DTA114EKA-T146		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2	1-414-595-11	INDUCTOR, FERRITE BEAD			
R3	1-414-595-11	INDUCTOR, FERRITE BEAD			
R4	1-216-839-11	METAL CHIP	33K	5%	1/10W
R5	1-216-843-11	METAL CHIP	68K	5%	1/10W
R8	1-216-839-11	METAL CHIP	33K	5%	1/10W
R9	1-216-843-11	METAL CHIP	68K	5%	1/10W
R12	1-414-595-11	INDUCTOR, FERRITE BEAD			
R13	1-414-595-11	INDUCTOR, FERRITE BEAD			
R151	1-216-817-11	METAL CHIP	470	5%	1/10W
R152	1-216-817-11	METAL CHIP	470	5%	1/10W
R153	1-216-834-11	METAL CHIP	12K	5%	1/10W
R154	1-216-834-11	METAL CHIP	12K	5%	1/10W
R155	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R301	1-216-821-11	METAL CHIP	1K	5%	1/10W
R302	1-216-821-11	METAL CHIP	1K	5%	1/10W
R401	1-216-797-11	METAL CHIP	10	5%	1/10W
R412	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R413	1-216-864-11	SHORT CHIP	0		
R414	1-216-864-11	SHORT CHIP	0		
R431	1-216-821-11	METAL CHIP	1K	5%	1/10W
R432	1-216-833-11	METAL CHIP	10K	5%	1/10W
R441	1-216-821-11	METAL CHIP	1K	5%	1/10W
R442	1-216-833-11	METAL CHIP	10K	5%	1/10W
R451	1-216-821-11	METAL CHIP	1K	5%	1/10W
R452	1-216-833-11	METAL CHIP	10K	5%	1/10W
R461	1-216-821-11	METAL CHIP	1K	5%	1/10W
R462	1-216-833-11	METAL CHIP	10K	5%	1/10W
R471	1-216-813-11	METAL CHIP	220	5%	1/10W
R472	1-216-833-11	METAL CHIP	10K	5%	1/10W
R479	1-216-805-11	METAL CHIP	47	5%	1/10W
R481	1-216-813-11	METAL CHIP	220	5%	1/10W
R482	1-216-833-11	METAL CHIP	10K	5%	1/10W
R502	1-216-821-11	METAL CHIP	1K	5%	1/10W
R503	1-216-821-11	METAL CHIP	1K	5%	1/10W
R504	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R505	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R506	1-216-845-11	METAL CHIP	100K	5%	1/10W
R507	1-216-845-11	METAL CHIP	100K	5%	1/10W
R509	1-216-813-11	METAL CHIP	220	5%	1/10W
R510	1-216-821-11	METAL CHIP	1K	5%	1/10W
R511	1-216-821-11	METAL CHIP	1K	5%	1/10W
R512	1-216-821-11	METAL CHIP	1K	5%	1/10W
R513	1-216-845-11	METAL CHIP	100K	5%	1/10W
R514	1-216-845-11	METAL CHIP	100K	5%	1/10W
R517	1-216-841-11	METAL CHIP	47K	5%	1/10W
R519	1-216-845-11	METAL CHIP	100K	5%	1/10W
R521	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R522	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R524	1-216-845-11	METAL CHIP	100K	5%	1/10W
R526	1-216-845-11	METAL CHIP	100K	5%	1/10W
R527	1-216-845-11	METAL CHIP	100K	5%	1/10W
R528	1-216-845-11	METAL CHIP	100K	5%	1/10W
R529	1-216-821-11	METAL CHIP	1K	5%	1/10W
R531	1-216-845-11	METAL CHIP	100K	5%	1/10W
R532	1-216-845-11	METAL CHIP	100K	5%	1/10W
R533	1-216-845-11	METAL CHIP	100K	5%	1/10W
R534	1-216-833-11	METAL CHIP	10K	5%	1/10W
R535	1-216-833-11	METAL CHIP	10K	5%	1/10W
R536	1-216-833-11	METAL CHIP	10K	5%	1/10W
R537	1-216-845-11	METAL CHIP	100K	5%	1/10W
R539	1-216-845-11	METAL CHIP	100K	5%	1/10W
R540	1-216-845-11	METAL CHIP	100K	5%	1/10W
R541	1-216-845-11	METAL CHIP	100K	5%	1/10W
R542	1-216-821-11	METAL CHIP	1K	5%	1/10W
R543	1-216-821-11	METAL CHIP	1K	5%	1/10W
R544	1-216-821-11	METAL CHIP	1K	5%	1/10W
R546	1-216-845-11	METAL CHIP	100K	5%	1/10W
R547	1-216-821-11	METAL CHIP	1K	5%	1/10W
R550	1-216-845-11	METAL CHIP	100K	5%	1/10W
R556	1-216-833-11	METAL CHIP	10K	5%	1/10W
R557	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R558	1-216-821-11	METAL CHIP	1K	5%	1/10W
R561	1-216-845-11	METAL CHIP	100K	5%	1/10W
R563	1-216-845-11	METAL CHIP	100K	5%	1/10W
R565	1-216-845-11	METAL CHIP	100K	5%	1/10W
R566	1-216-845-11	METAL CHIP	100K	5%	1/10W
R567	1-216-845-11	METAL CHIP	100K	5%	1/10W
R568	1-216-821-11	METAL CHIP	1K	5%	1/10W
R570	1-216-817-11	METAL CHIP	470	5%	1/10W
R572	1-216-845-11	METAL CHIP	100K	5%	1/10W
R574	1-216-845-11	METAL CHIP	100K	5%	1/10W
R578	1-216-821-11	METAL CHIP	1K	5%	1/10W
R582	1-216-821-11	METAL CHIP	1K	5%	1/10W
R583	1-216-821-11	METAL CHIP	1K	5%	1/10W
R584	1-216-849-11	METAL CHIP	220K	5%	1/10W
R585	1-216-849-11	METAL CHIP	220K	5%	1/10W
R601	1-216-845-11	METAL CHIP	100K	5%	1/10W
R631	1-249-425-11	CARBON	4.7K	5%	1/4W
R632	1-216-841-11	METAL CHIP	47K	5%	1/10W
R633	1-216-841-11	METAL CHIP	47K	5%	1/10W
R634	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R636	1-216-845-11	METAL CHIP	100K	5%	1/10W
R661	1-216-821-11	METAL CHIP	1K	5%	1/10W
R662	1-216-833-11	METAL CHIP	10K	5%	1/10W
R663	1-216-821-11	METAL CHIP	1K	5%	1/10W
R664	1-216-833-11	METAL CHIP	10K	5%	1/10W
R671	1-216-809-11	METAL CHIP	100	5%	1/10W
R672	1-216-809-11	METAL CHIP	100	5%	1/10W
R673	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R674	1-216-845-11	METAL CHIP	100K	5%	1/10W
R675	1-216-821-11	METAL CHIP	1K	5%	1/10W
R676	1-216-821-11	METAL CHIP	1K	5%	1/10W
R677	1-216-821-11	METAL CHIP	1K	5%	1/10W
R679	1-216-821-11	METAL CHIP	1K	5%	1/10W
R690	1-216-845-11	METAL CHIP	100K	5%	1/10W
R692	1-216-845-11	METAL CHIP	100K	5%	1/10W (GT270/GT270S)
R693	1-216-845-11	METAL CHIP	100K	5%	1/10W (GT170/GT170S)
R752	1-216-811-11	METAL CHIP	150	5%	1/10W
R756	1-216-841-11	METAL CHIP	47K	5%	1/10W

MAIN **SERVO**

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S502	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)	
		< TUNER UNIT >	
TU1	A-3220-960-B	TUNER UNIT (TUX-032)	
		< VIBRATOR >	
X501	1-813-524-21	VIBRATOR, CERAMIC (18.432MHz)	
X502	1-767-317-11	VIBRATOR, CRYSTAL (32.768kHz)	
**********			
	A-1201-631-A	SERVO BOARD, COMPLETE **********	
**********			
		MISCELLANEOUS **********	
7	1-833-974-31	CONNECTION CORD FOR AUTOMOBILE	(POWER)
⚠103	X-2149-672-1	SERVICE ASSY, OP (DAX-25A)	
**********			
		ACCESSORIES **********	
	1-479-077-13	REMOTE COMMANDER (RM-X151)	(GT270/GT270S)
	2-548-729-01	LID, BATTERY CASE (for RM-X151)	(GT270/GT270S)
	3-215-427-31	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PERSIAN)	(EXCEPT CH)
	3-215-427-41	MANUAL, INSTRUCTION (ENGLISH, SIMPLIFIED CHINESE)	(CH)
	3-215-428-31	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PERSIAN)	(EXCEPT CH)
	3-215-428-41	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SIMPLIFIED CHINESE)	(CH)
	X-2186-697-1	CASE ASSY (for FRONT PANEL)	
**********			

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS **********	
151	X-2179-430-1	FRAME ASSY, FITTING	
152	2-686-802-01	COLLAR	
153	3-246-011-01	KEY (FRAME)	
154	A-1082-993-A	SCREW ASSY (BS4), FITTING	
155	3-259-776-01	SCREW (+K 5X8 TP)	
156	1-833-974-31	CONNECTION CORD FOR AUTOMOBILE	(POWER)



MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2007. 08	New